

Nucleotide	Description
1-1542	16S rRNA of <i>Escherichia coli</i> rrnB operon
1536-1540	16S MBS (message binding sequence) GGGAU
1543-1982	16S-23S spacer region
1983-4886	23S rRNA of <i>Escherichia coli</i> rrnB operon
4887-4982	23S-5S spacer region
4983-5098	5S rRNA of <i>Escherichia coli</i> rrnB operon
5102-5145	terminator T1 of <i>Escherichia coli</i> rrnB operon
5276-5305	terminator T2 of <i>Escherichia coli</i> rrnB operon
6575-7432	<i>bla</i> (β -lactamase; ampicillin resistance)
7575-8209	replication origin
8813-8622	<i>rop</i> (Rop protein)
10201-9467	GFP (Green Fluorescent Protein)
10213-10209	GFP RBS (ribosome binding sequence) AUCCC
10270-10230	<i>trpc</i> promoter
10745-10785	<i>trpc</i> promoter
10802-10806	CAT RBS (ribosome binding sequence) AUCCC
10814-11473	<i>cam</i> (chloramphenicol acetyltransferase; CAT)
11782-11859	<i>lacI^q</i> promoter
11860-12942	<i>lacI^q</i> (lac repressor)
12985-13026	<i>lacUV5</i> promoter

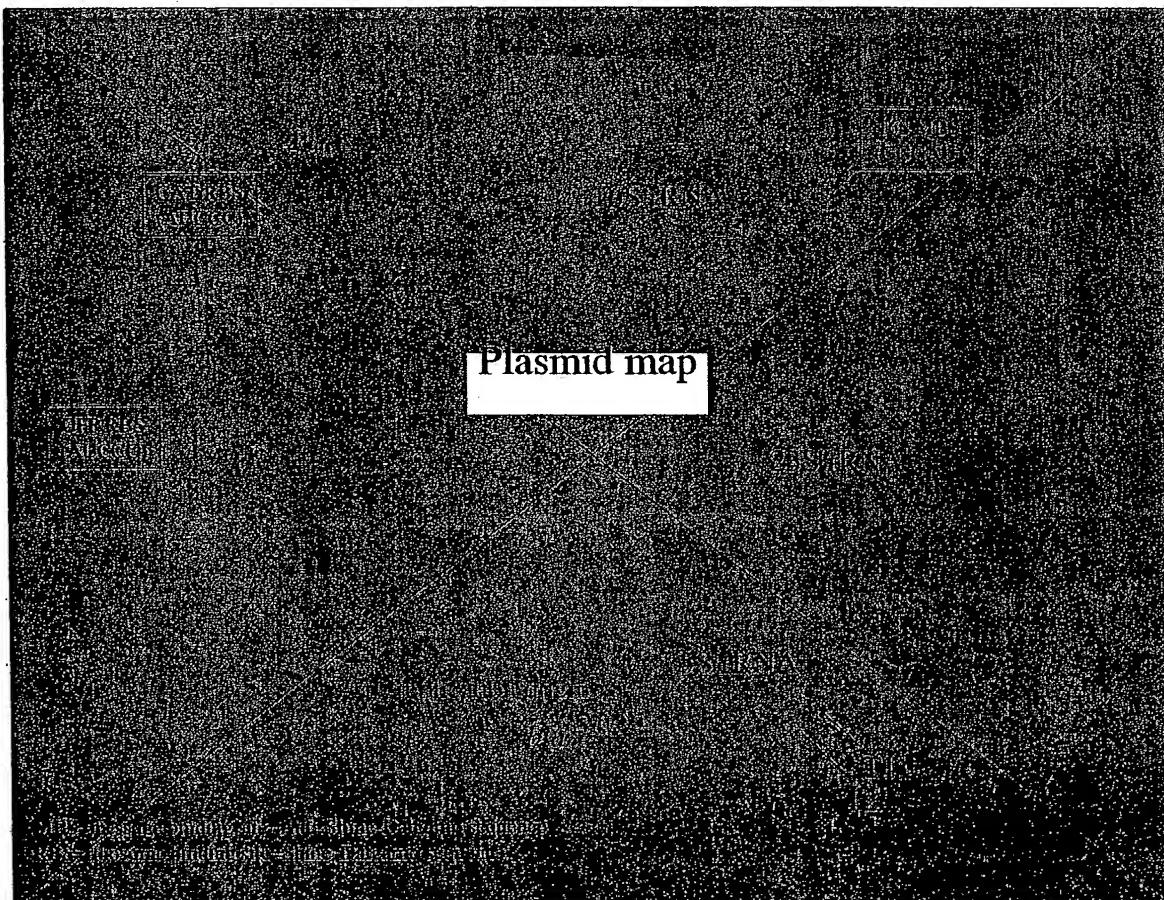


Figure 1

App No.: Not Yet Assigned
 Inventor: Phillip R. Cunningham
 Title: METHODS AND COMPOSITIONS FOR THE
 IDENTIFICATION OF ANTIBIOTICS THAT ARE NOT

Docket No.: WSV-2597

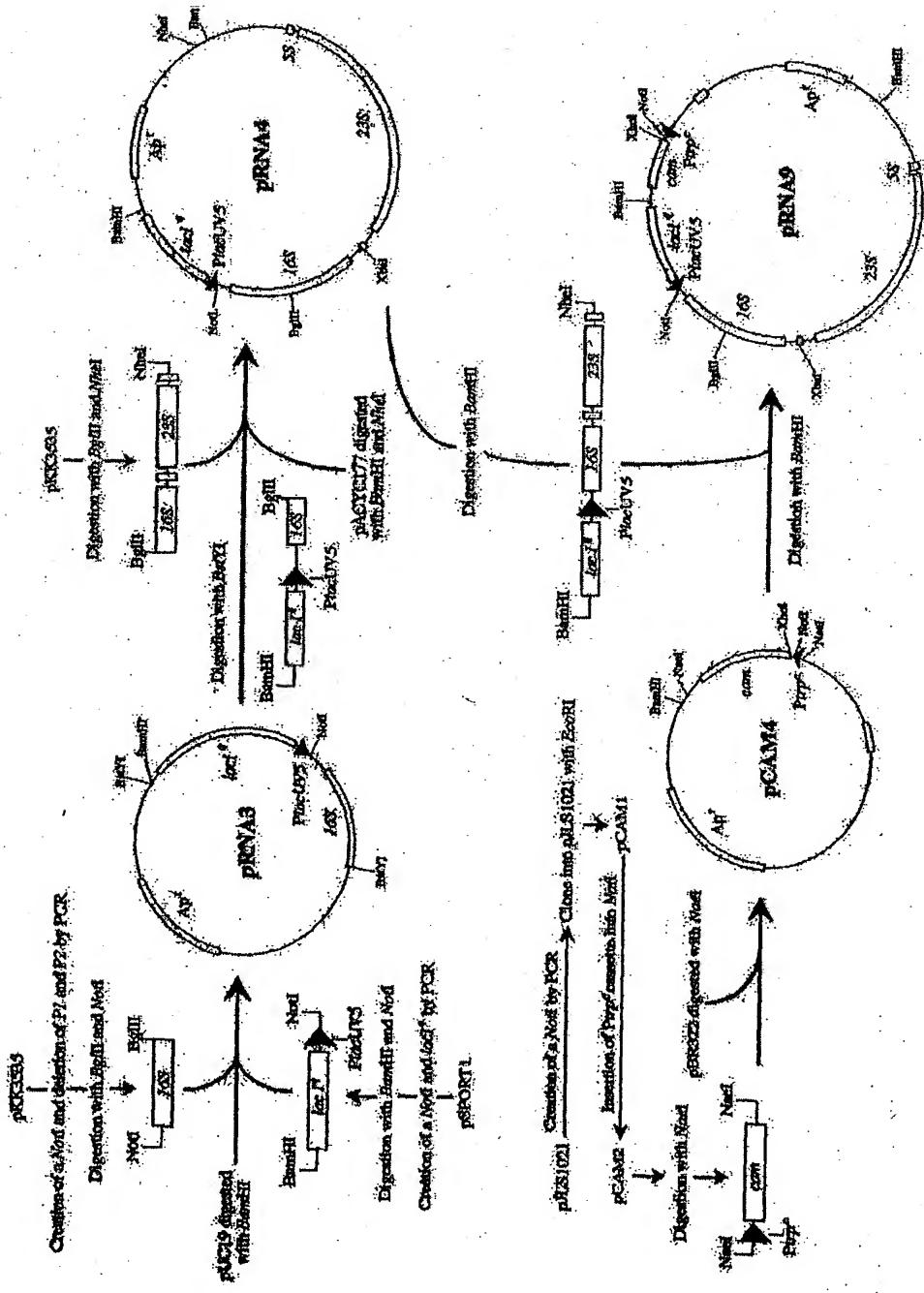


Figure 2

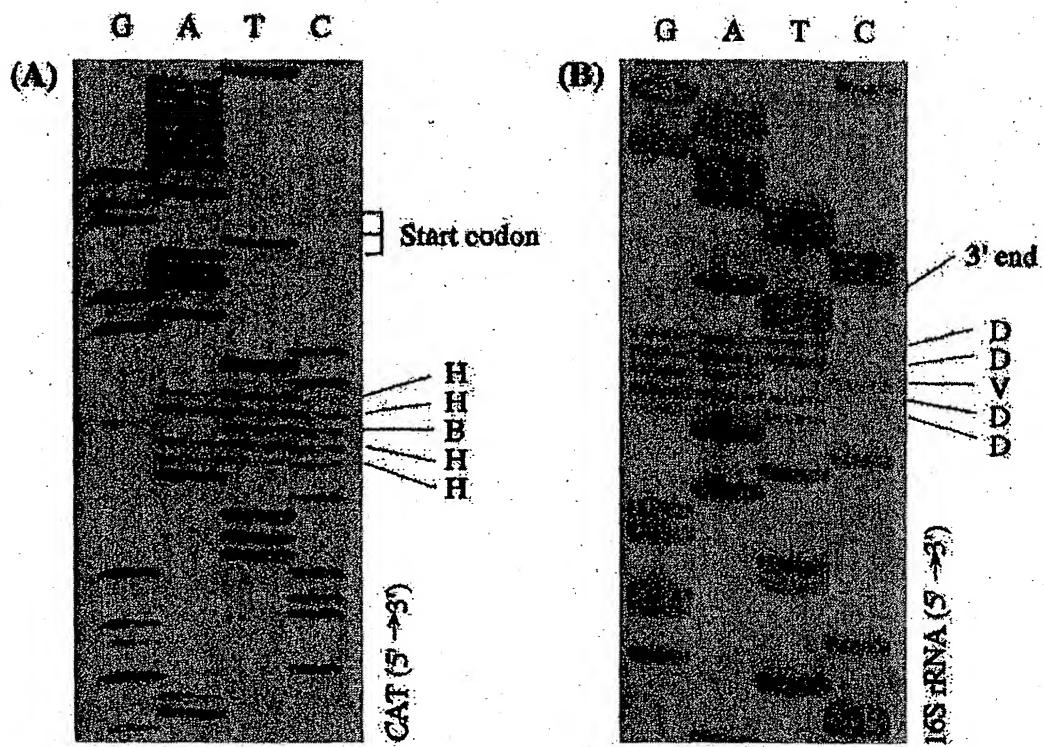


Figure 3

App No.: Not Yet Assigned

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Title: METHODS AND COMPOSITIONS FOR THE
IDENTIFICATION OF ANTIBIOTICS THAT ARE NOT
RESISTANT

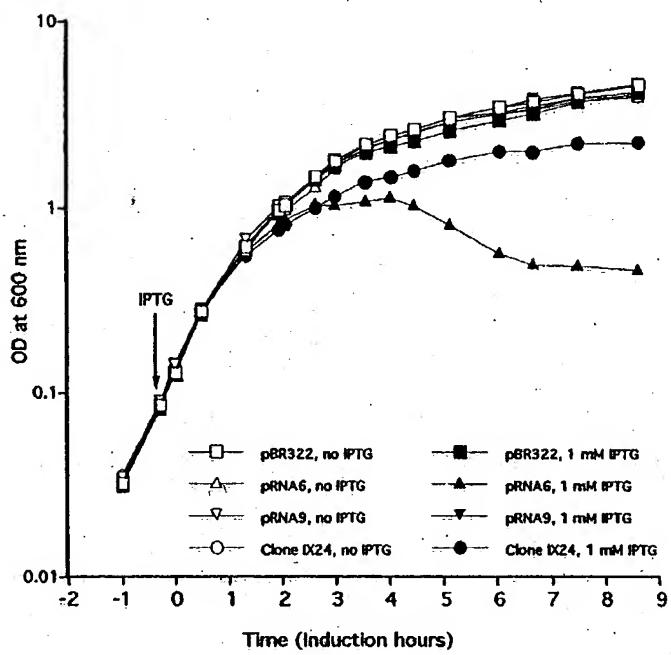


Figure 4

App No.: Not Yet Assigned
 Inventor: Phillip R. Cunningham

Docket No.: WSV-2597

Title: METHODS AND COMPOSITIONS FOR THE
 IDENTIFICATION OF ANTIBIOTICS THAT ARE NOT
 SUSCEPTIBLE TO ANTIBIOTIC RESISTANCE

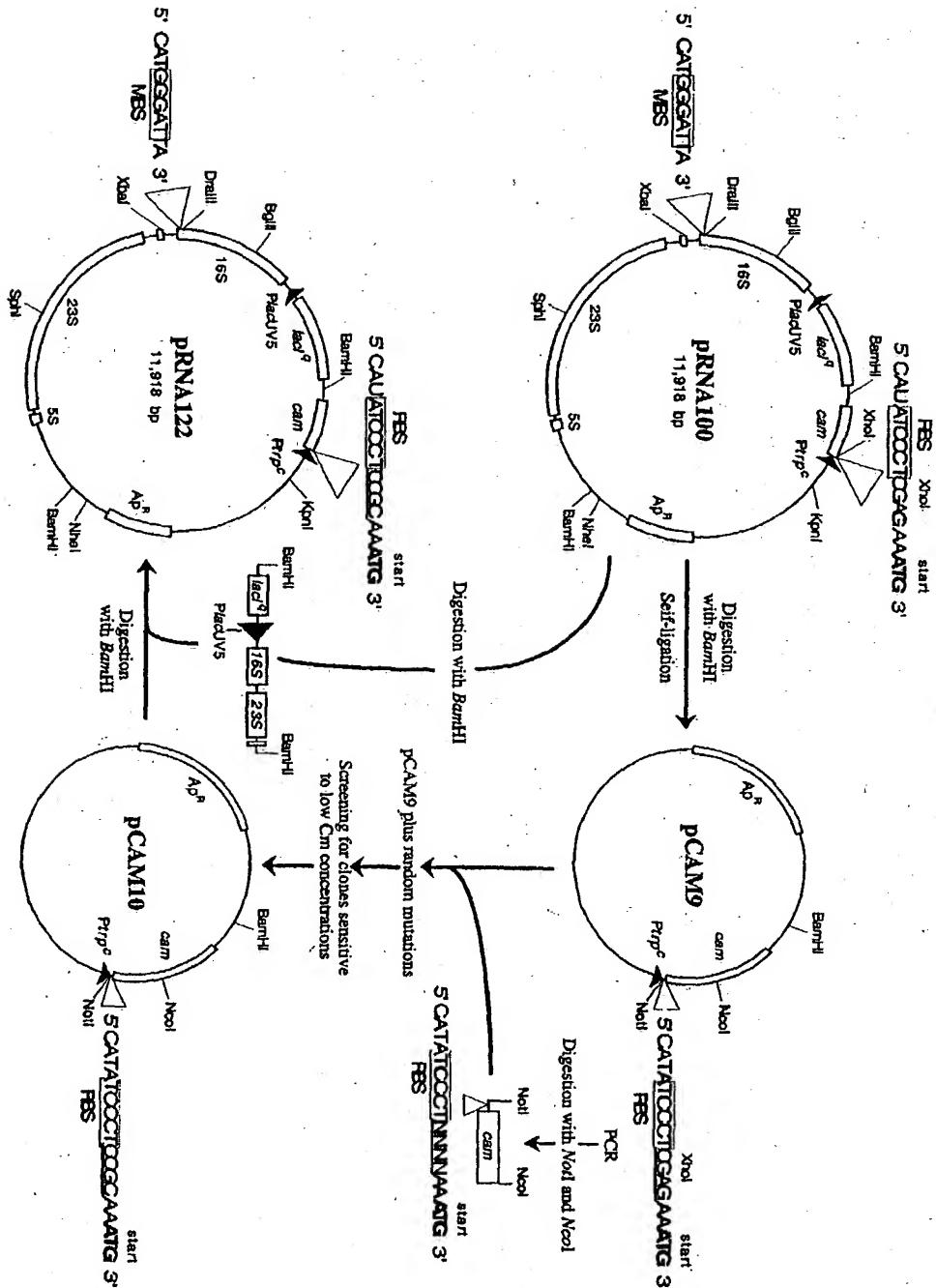


Figure 5

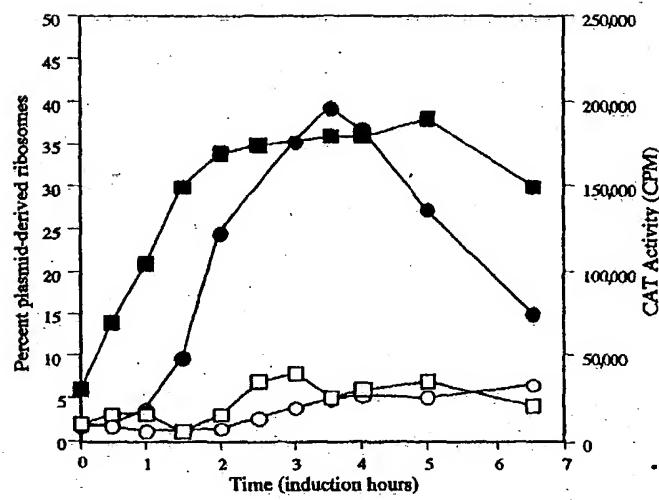


Figure 6

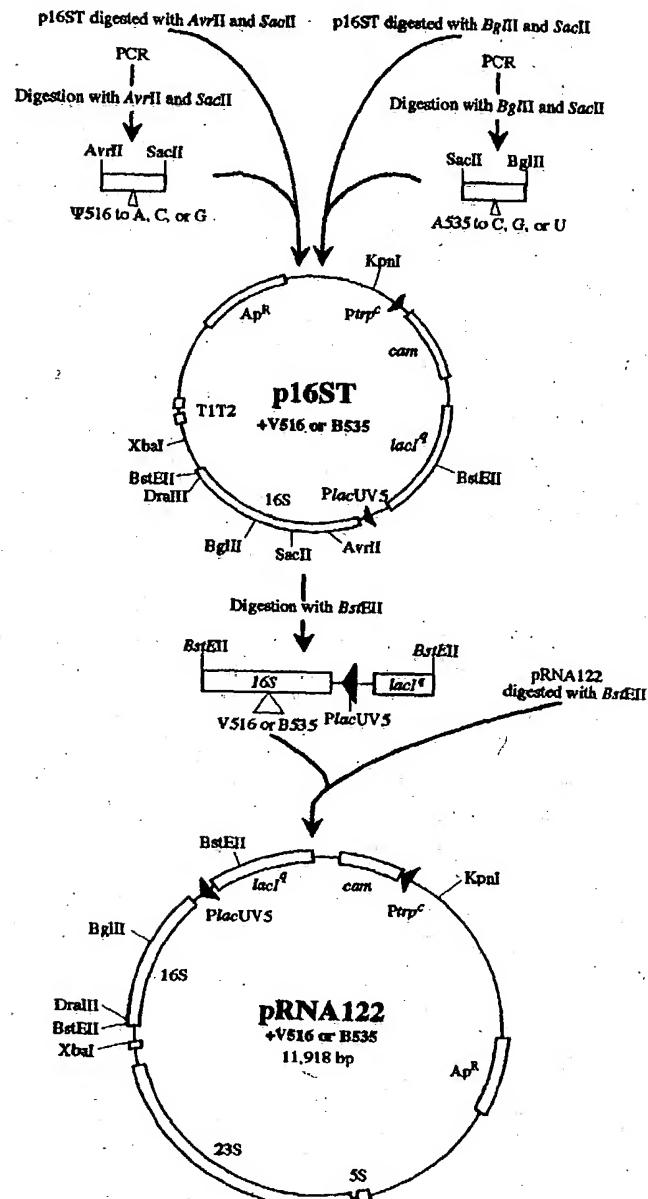


Figure 7

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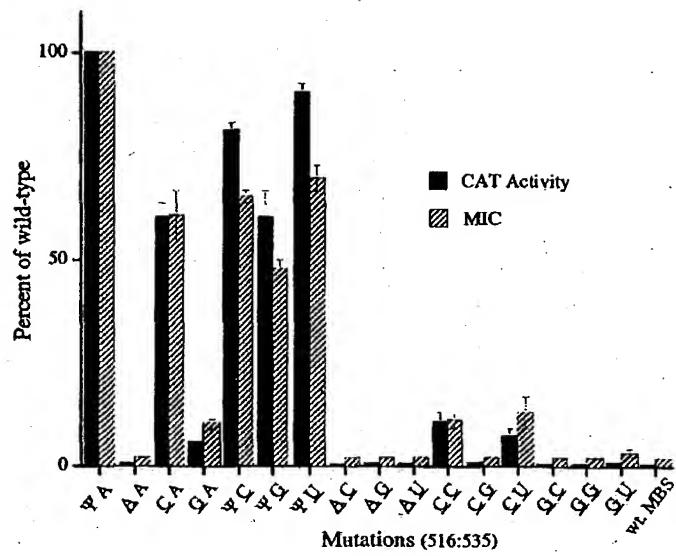


Figure 8

Oligo	Sequence (5' to 3')	Used for
OL2 IL2	ATAGGGGTTTCGGCACATT CTCGAGCCCTCTGAAAGCGGCCG CACTAAAAATAACGCCGGT AGT	Primer <i>cam</i> from -268 to -249 Creating a <i>NotI</i> in the upstream of <i>cam</i>
OR2 IR2	AAATCGTGGTATTCACT GGGGCGCTTCAGGAGGGCTGA GAAATGGAGAAAAAAATCACT GIGCCGCTAGCCGGCGAAGCTGTTG ACAAATTAAATCATGAACTAGTT TAATGTGTGAAAGC	Primer <i>cam</i> from 473 to 492 Creating a <i>NotI</i> in the upstream of <i>cam</i>
TRP-T		Promoter <i>trpC</i> , top strand
TRP-B		Promoter <i>trpC</i> , bottom strand
SD*-B SD*-T lacU		Mutated RBS for pCAMS; top strand Mutated RBS for pCAMS; bottom strand Creating a <i>NotI</i> and <i>PlacUV5</i> mutation in the 3' end of <i>lacI</i>
lacL		Creating a <i>BamHI</i> and <i>lacI</i> mutation in the 5' end of <i>lacI</i>
OL4	TGGATCCGACACCATCGAATGG TGCAAAACCTT	Primer 16S rRNA from -707 to -689; creating a <i>BamHI</i> in the 5' end of 16S rRNA
IL4	GAAGGGATCCGGGAAGATGTTT CTCTGG	Primer 16S rRNA from -351 to -333; deleting P1P2 and creating a <i>NotI</i> in the 5' end of 16S rRNA
OR4	GGGGGGCGCTTAAATAATTTCCT GACCC	Primer 16S rRNA from 745 to 765; creating a <i>HindIII</i> in the middle of 16S rRNA
IR4	OCACAAGCTTCGACCTGAGCGT CAGTCCTC	Primer 16S rRNA from -164 to -180; deleting P1P2 and creating a <i>NotI</i> in the 5' end of 16S rRNA
ASD*-B ASD*-T	AAATTATTAAAGGGCGCTG GAAGAAAGCGAAGC GGCGACTTCACTCACAAAC GTCGAAGCTGGTAACCGTAGGG GAACCTGCGTTGGATCACACAC TTACCTTAAGGAAGCGTAC TTAATGTGGAAAGCGCCGCTT TCATAATCCCTNNNNAAATGGAG AAAAAAATC	Primer tRNA _{GU} from +8 to +27 Primer 16S from 1504 to +16; mutating the MBS region from C1536UC1538 to A1536CA1538
Cat-M-Xhol		Primer <i>cam</i> from -39 to +15; creating 4 nucleotide random mutations
Cat-N-NcoI		Primer <i>cam</i> from 688 to 706

Figure 9

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Plasmid	Description	Reference
PUC19	Cloning vector	(67)
PBR322	Cloning vector	(73)
PACYC177	Cloning vector	(72)
PKK3535	pBR322 derivative containing intact <i>rrmB</i> operon	(31)
psPORT1	pUC19 derivative containing <i>cam</i>	(57)
PJLS1021	pBR322 derivative containing <i>cam</i>	(58)
PCAM1	PKK3535 containing U1192 in 16S rRNA and G2058 in 23S rRNA plus a <i>NotI</i> site in the upstream of <i>cam</i>	(34)
PCAM2	pJLS1021 plus <i>PtrpC</i> between <i>NotI</i> sites in the upstream of <i>cam</i>	This study
PCAM4	PCAM1 plus <i>PtrpC</i> between <i>NotI</i> sites in the upstream of <i>cam</i>	This study
PCAM5	pBR322 plus the <i>Nael</i> fragment of pCAM2 containing <i>cam</i> under <i>PtrpC</i>	This study
PCAM4	PCAM4 containing RBS (5'-GUUGU) of Hui et al. (1) in <i>cam</i>	This study
PCAM5	PCAM4 containing selected RBS (5'-AUCCC) in <i>cam</i>	This study
PCAM9	PCAM9 containing selected upstream sequence of <i>cam</i>	This study
PCAM10	pUC19 plus <i>lacZ</i> and 5' end of 16S rRNA under <i>PlacUV5</i>	This study
PRNA3	pACYC177 plus <i>lacZ</i> and <i>rrmB</i> with wild-type MBS under <i>PlacUV5</i>	This study
PRNA4	PRNA4 containing MBS (5'-CACAC) of Hui et al. (1) in 16S rRNA	This study
PRNA5	PCAM5 plus the <i>Bam</i> H fragment containing <i>lacZ</i> and <i>rrmB</i> from PRNA5	This study
PRNA6	PCAM5 plus the <i>Bam</i> H fragment containing <i>lacZ</i> and <i>rrmB</i> from PRNA4	This study
PRNA8	PCAM4 plus the <i>Bam</i> H fragment containing <i>lacZ</i> and <i>rrmB</i> from PRNA4	This study
PRNA9	PRNA8 containing selected MBS (5'-GGGAU) and RBS (5'-AUCCC)	This study
PRNA100	PRNA100 containing U1192 in 16S rRNA	This study
PRNA101	PRNA101 containing U2058 in 23S rRNA	This study
P16ST	pUC19 derivative containing <i>cam</i> , <i>lacZ</i> and 16S rRNA from PRNA100	This study
PRNA122	PRNA100 containing selected upstream sequence of <i>cam</i> from pCAM10	This study
PRNA170	PRNA122 containing U1192 in 16S rRNA and U2058 in 23S rRNA	This study

Figure 10

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MIC with no induction	MIC with induction					
	50	100	200	400	500	600
700	800	1000				
50	4	1	1	16	6	1
100	1	1	51	45	10	2
200		3	121		22	1
400			72		20	3
600			4	11		1
700					1	60
800						3
1000						1

FIGURE 11

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Clone	RNA sequences	ΔG_{37}^0	MIC		CAT		Induction
			μg of Crn/ mL	-I	+I	-I	
Random	5' C A <u>R1</u> <u>R2</u> <u>R3</u> <u>R4</u> <u>R5</u> C U C G 3' CAT mRNA 3' A U <u>M5</u> <u>M4</u> <u>M3</u> <u>M2</u> <u>M1</u> A C U 5'	-16S rRNA kcal/mol	-9.8	500	2803 ± 68	2700 ± 196	1.0 -I+I
pRNA49	5' C A <u>G</u> <u>G</u> <u>G</u> <u>G</u> C U C G 3' 3' A U <u>U</u> <u>C</u> <u>C</u> <u>C</u> A C U 5'	-9.8	500	2803 ± 68	2700 ± 196	1.0 -I+I	
pRNA46	5' C A <u>G</u> <u>G</u> <u>G</u> <u>G</u> C U C G 3' 3' A U <u>U</u> <u>C</u> <u>C</u> <u>C</u> A C U 5'	-7.8	100	4033 ± 1040	12437 ± 2491	3.1 -I+I	
VII30	5' C A <u>U</u> <u>U</u> <u>C</u> <u>C</u> U C G 3' 3' A U <u>U</u> <u>A</u> <u>G</u> <u>G</u> A C U 5'	-8.4	100	500	6293 ± 706	72206 ± 706	11.5 -I+I
VII43	5' C A <u>A</u> <u>C</u> <u>A</u> <u>C</u> C U C G 3' 3' A U <u>U</u> <u>G</u> <u>G</u> A C U 5'	-8.1	125	500	5603 ± 1011	47667 ± 891	8.5 -I+I
VII64, VII65	5' C A <u>U</u> <u>A</u> <u>U</u> <u>C</u> U C G 3' 3' A U <u>U</u> <u>G</u> <u>G</u> A C U 5'	-7.3	100	500	6200 ± 953	37311 ± 3978	6.0 -I+I
VII29	5' C A <u>U</u> <u>A</u> <u>U</u> <u>C</u> U C G 3' 3' A U <u>U</u> <u>G</u> <u>G</u> A C U 5'	-10.9	125	600	7869 ± 416	91153 ± 4003	11.6 -I+I
VII46	5' C A <u>A</u> <u>A</u> <u>C</u> C U C G 3' 3' A U <u>U</u> <u>G</u> <u>G</u> A C U 5'	-7.7	100	500	6431 ± 816	46840 ± 796	7.3 -I+I
VII77	5' C A <u>C</u> <u>A</u> <u>U</u> <u>C</u> C U C G 3' 3' A U <u>U</u> <u>G</u> <u>G</u> A C U 5'	-7.7	150	600	6794 ± 650	44358 ± 4841	6.5 -I+I
VII83	5' C A <u>C</u> <u>G</u> <u>A</u> <u>C</u> C U C G 3' 3' A U <u>U</u> <u>G</u> <u>G</u> A C U 5'	-8.5	100	500	5643 ± 897	24888 ± 2388	4.4 -I+I
IX24	5' C A <u>U</u> <u>C</u> <u>C</u> C U C G 3' 3' A U <u>U</u> <u>A</u> <u>G</u> G U A C U 5'	-7.3	100	650	7524 ± 263	91809 ± 4542	12.7 -I+I
IX32	5' C A <u>A</u> <u>C</u> <u>C</u> C U C G 3' 3' A U <u>U</u> <u>G</u> <u>G</u> A C U 5'	-7.7	100	500	5783 ± 971	32164 ± 5862	5.6 -I+I
IX57	5' C A <u>U</u> <u>A</u> <u>C</u> <u>C</u> C U C G 3' 3' A U <u>U</u> <u>G</u> <u>G</u> A C U 5'	-8.0	125	600	6083 ± 787	24581 ± 3009	4.1 -I+I

FIGURE 12

App No.: Not Yet Assigned
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 Title: METHODS AND COMPOSITIONS FOR THE IDENTIFICATION OF ANTIBIOTICS THAT ARE NOT SUSCEPTIBLE TO ANTIBIOTIC RESISTANCE

Docket No.: WSV-2597

Clone	RNA sequences		MIC (μ g/mL)	
	Mutated positions	5' CAU AU CCCC UNNN NAAU G 3' CAT mRNA 3' AUU AGGG UACU AGG 5'	16S rRNA	
pRNA100		5' CA U A U C C C U C G A G A A U G 3' 3' A U U A G G G U A C U A G G 5'	100	650
pRNA100 + wt MBS		5' CA U A U C C C U C G A G A A U G 3' 3' A U U A G G G U A C U A G G 5'	50	50
pRNA122		5' CA U A U C C C U C G G G A A U G 3' 3' A U U A G G G U A C U A G G 5'	50	600
pRNA122 + wt MBS		5' CA U A U C C C U C G G G A A U G 3' 3' A U U A G G G U A C U A G G 5'	10	10
pRNA125		5' CA U A U C C C U C C U G A A U G 3' 3' A U U A G G G U A C U A G G 5'	80	600
pRNA127		5' CA U A U C C C U C C C A A A U G 3' 3' A U U A G G G U A C U A G G 5'	50	600
pRNA128		5' CA U A U C C C U C C A C A A U G 3' 3' A U U A G G G U A C U A G G 5'	50	600

FIGURE 13

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Residue at 516	Percent plasmid-derived 30S in			% CAT
	30S peak	70S peak	Crude ribosomes	
Ψ	46.5 \pm 3.6	53.0 \pm 4.5	47.8 \pm 2.8	100
A	54.2 \pm 5.4	10.6 \pm 1.4	37.5 \pm 3.9	0
C	51.8 \pm 0.2	27.1 \pm 2.9	42.9 \pm 5.8	59.4
G	67.5 \pm 6	8.8 \pm 0.9	44.1 \pm 5.2	6.3

FIGURE 14

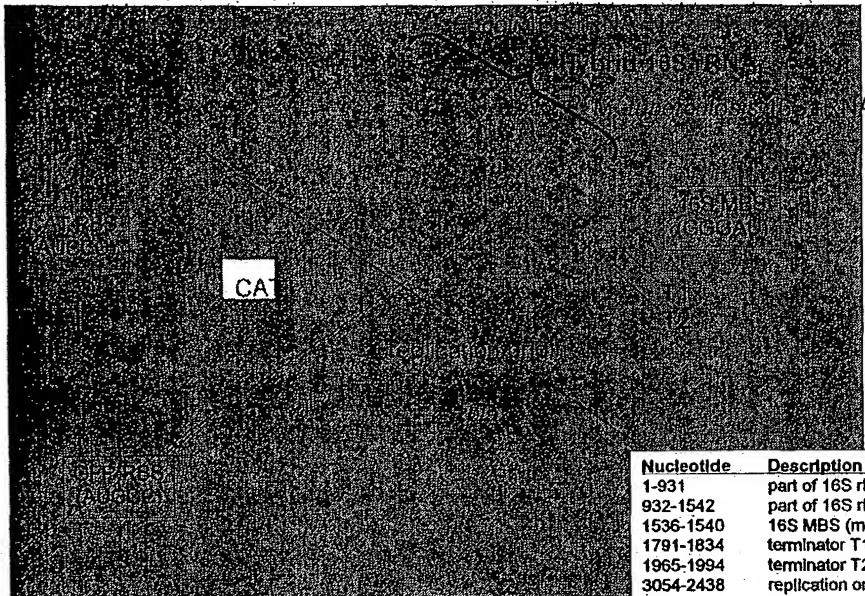
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Clone	Alignment of CAT mRNA and 16S rRNA										MIC (μ g of Cm/mL)	ΔG_{37}° (kcal/mol)						
	5' C	A	R1	R2	R3	R4	R5	C	U	C	G	3'	CAT mRNA	16S rRNA				
Random	3' A	U	U	H5	M4	M3	M2	M1	A	C	U	5'			no IPTG	1 mM IPTG		
wild-type	5' C	A	Q	Q	A	Q	Q	C	U	C	G	3'			500	500	-9.8	
	3' A	U	U	U	C	C	U	C	A	C	U	5'						
1	5' C	A	A	U	Q	Q	Q	C	U	C	G	3'			100	400	-8.3	
	3' A	U	U	A	Q	Q	Q	A	A	C	U	5'						
2	5' C	A	U	A	Q	Q	U	C	U	C	G	3'			50	100	-4	
	3' A	U	U	U	Q	Q	Q	U	A	A	C	U	5'					
3	5' C	A	Q	A	Q	U	Q	C	U	C	G	3'			50	100	-1.9	
	3' A	U	U	A	Q	U	Q	Q	A	Q	A	U	5'					
4	5' C	A	A	A	C	C	A	C	U	C	G	3'			50	100	-4.1	
	3' A	U	U	U	Q	Q	U	Q	A	Q	A	U	5'					
5	5' C	A	U	A	Q	Q	Q	C	U	C	G	3'			50	100	-7.6	
	3' A	U	U	Q	Q	Q	Q	U	A	C	U	5'						
6	5' C	A	U	Q	U	U	Q	C	U	C	G	3'			50	100	-7.4	
	3' A	U	U	Q	Q	Q	A	Q	A	C	U	5'						
7	5' C	A	A	U	U	A	U	C	U	C	G	3'			50	100	-3.1	
	3' A	U	U	U	U	A	Q	A	A	C	U	5'						
8	5' C	A	Q	A	Q	A	A	C	U	C	G	3'			100	200	-3.6	
	3' A	U	U	Q	Q	U	A	Q	U	A	A	U	5'					
9	5' C	A	A	A	G	U	U	C	U	C	G	3'			100	200	-0.6	
	3' A	U	U	G	A	Q	U	Q	A	A	C	U	5'					
10	5' C	A	A	U	U	Q	A	C	U	C	G	3'			100	400	-7.7	
	3' A	U	U	A	Q	U	G	A	Q	A	U	5'						
11	5' C	A	A	Q	U	Q	A	C	U	C	G	3'			100	200	-7.1	
	3' A	U	U	Q	U	Q	A	Q	A	C	U	5'						
12	5' C	A	A	A	C	C	C	A	C	U	G	3'			50	100	-6	
	3' A	U	U	A	Q	G	G	Q	U	A	C	U	5'					
13	5' C	A	U	Q	Q	U	U	C	U	C	G	3'			50	200	-2.2	
	3' A	U	U	Q	U	Q	A	Q	A	A	C	U	5'					
14	5' C	A	Q	A	Q	Q	A	C	U	C	G	3'			50	100	-4.7	
	3' A	U	U	U	U	Q	Q	U	A	C	U	5'						
15	5' C	A	Q	C	C	C	A	Q	C	U	G	3'			50	200	-7	
	3' A	U	U	G	G	G	Q	A	A	C	U	5'						
16	5' C	A	U	Q	Q	Q	A	C	U	C	G	3'			50	100	-7.3	
	3' A	U	U	G	G	G	Q	Q	A	A	C	U	5'					
17	5' C	A	A	A	Q	U	Q	C	U	C	G	3'			50	100	0.8	
	3' A	U	U	A	U	Q	A	Q	A	A	C	U	5'					
18	5' C	A	U	A	Q	Q	A	U	C	U	G	3'			50	100	-2.1	
	3' A	U	U	U	U	Q	G	A	Q	A	C	U	5'					
19	5' C	A	A	Q	U	Q	U	C	U	C	G	3'			50	200	-5.6	
	3' A	U	U	A	Q	U	Q	A	Q	A	U	5'						
20	5' C	A	A	A	A	U	A	U	C	U	G	3'			200	500	-6.2	
	3' A	U	U	U	U	A	Q	A	Q	A	C	U	5'					
21	5' C	A	U	A	Q	Q	U	C	U	C	G	3'			200	500	-7.3	
	3' A	U	U	Q	Q	A	Q	U	A	C	U	5'						
22	5' C	A	U	A	Q	U	A	C	U	C	G	3'			100	200	0.3	
	3' A	U	U	U	A	Q	G	Q	U	A	C	U	5'					
23	5' C	A	A	U	Q	Q	A	C	U	C	G	3'			200	400	-10.6	
	3' A	U	U	A	Q	Q	U	Q	U	A	C	U	5'					
24	5' C	A	Q	A	Q	U	Q	A	U	C	U	G	3'			100	200	-0.2
	3' A	U	U	U	U	Q	Q	A	Q	A	C	U	5'					

FIGURE 15

Clone	Alignment of CAT mRNA and 16S rRNA										MIC (μ g of Cm/mL)		
	CAT mRNA					16S rRNA					no IPTG	1 mM IPTG	ΔG_{37}° (kcal/mol)
Random	5' C A R1 R2 R3 R4 R5 G U C G 3'	3' A U U M5 M4 M3 M2 M1 A C U 5'											
25	5' C A U A G Q Q A C U C G 3'	3' A U U A U Q G U A C U S'									200	400	-6.8
26	5' C A A Q U A A A C U C G 3'	3' A U U Q U G A U A C U S'									100	200	-3.4
27	5' C A A A U A U C U C G 3'	3' A U U A U G Q A A C U S'									100	400	-5.3
28	5' C A A A A U A U C U C G 3'	3' A U U A Q A Q A Q A C U S'									200	400	-1.6
29	5' C A Q U Q Q U C U C G 3'	3' A U U A Q Q A Q A C U S'									50	100	-9.1
30	5' C A U A U U Q C U C G 3'	3' A U U A A Q Q U A C U S'									100	400	-5.3
31	5' C A A Q Q U A C U C G 3'	3' A U U A Q Q A Q G A C U S'									50	200	-3.1
32	5' C A A U Q Q A C U C G 3'	3' A U U A Q Q A Q A C U S'									100	400	-4.5
33	5' C A A Q Q Q C C U C G 3'	3' A U U Q Q Q A Q A C U S'									100	400	-7.2
34	5' C A A A Q A U C U C G 3'	3' A U U Q U A Q A A C U S'									200	400	-8
35	5' C A U Q Q Q A C U C G 3'	3' A U U A U Q Q Q A C U S'									50	200	-5
36	5' C A Q U Q A U C U C G 3'	3' A U U A Q Q A Q Q A C U S'									200	500	-3.9
37	5' C A U A U Q Q C C U C G 3'	3' A U U U A Q Q Q A C U S'									100	500	-8.4
38	5' C A A A Q A Q C C U C G 3'	3' A U U U U Q Q A Q A C U S'									150	500	-8.1
39	5' C A A Q Q A A C U C G 3'	3' A U U Q U Q A Q A C U S'									100	400	-5.7
40	5' C A U Q U A U C U C G 3'	3' A U U A Q Q A Q Q A C U S'									100	400	-6.2
41	5' C A U A C Q U C U C G 3'	3' A U U Q Q Q A Q U A C U S'									100	500	-7.3
42	5' C A U A U A A C C U C G 3'	3' A U U A Q A Q A A C U S'									200	500	-3.6
43	5' C A A A U A C C U C G 3'	3' A U U U Q Q A Q U A C U S'									100	500	-7.7
44	5' C A Q A U A Q C U C G 3'	3' A U U U U Q Q A Q U A C U S'									150	600	-7.7
45	5' C A Q Q Q A Q C U C G 3'	3' A U U U Q Q A Q A C U S'									100	500	-8.5
46	5' C A U A U Q Q C C U C G 3'	3' A U U U Q Q Q Q U A C U S'									100	700	-7.3
47	5' C A A Q U A Q C U C G 3'	3' A U U Q Q Q A Q U A C U S'									100	500	-7.7
48	5' C A U A V A Q C U C G 3'	3' A U U Q Q Q A Q A A C U S'									200	600	-8

FIGURE 16



Nucleotide	Description
1-931	part of 16S rRNA from <i>Escherichia coli</i> rrnB operon
932-1542	part of 16S rRNA from <i>Mycobacterium tuberculosis</i> rrn operon
1536-1540	16S MBS (message binding sequence) GGGAU
1791-1834	terminator T1 of <i>Escherichia coli</i> rrnB operon
1965-1994	terminator T2 of <i>Escherichia coli</i> rrnB operon
3054-2438	replication origin
3214-4074	<i>bla</i> (β -lactamase; ampicillin resistance)
5726-4992	GFP (Green Fluorescent Protein)
5738-5734	GFP RBS (ribosome binding sequence) AUCCC
5795-5755	<i>trpc</i> promoter
6270-6310	<i>trpc</i> promoter
6327-6331	CAT RBS (ribosome binding sequence) AUCCC
6339-6998	<i>cam</i> (chloramphenicol acetyltransferase; CAT)
7307-7384	<i>lacZ</i> promoter
7385-8467	<i>lacZ</i> ' (lac repressor)
8510-8551	<i>lacUV5</i> promoter

FIGURE 17

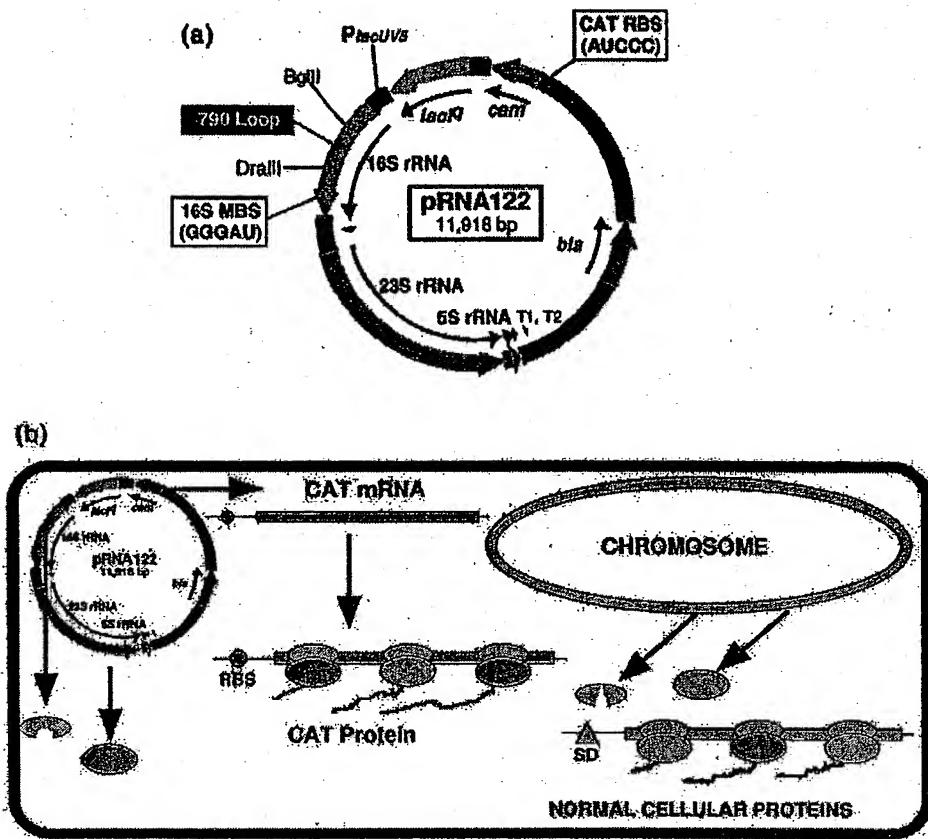


FIGURE 18

FIGURE 19

App No.: Not Yet Assigned
Inventor: Phillip R. Cunningham
Title: METHODS AND COMPOSITIONS FOR IDENTIFICATION OF ANTIBIOTICS

Docket No.: WSV-2597

Nucleotide	787	788	789	790	791	792	793	794	795
A. Nucleotide distribution of functional mutants^a									
A	54	24	0	69	0	15	18	35	16
C	2	16	0	8	0	24	26	5	34
G	22	21	0	1	78	16	4	9	7
U	0	17	78	0	0	23	30	29	21
Consensus	R	N	U	M	G	N	H	W	H
B. Nucleotide distribution in all known bacteria^b									
A	573	0	0	578	1	578	0	577	0
C	3	0	0	0	1	0	0	1	578
G	1	0	0	0	576	0	3	0	0
U	1	578	578	0	0	0	575	0	0
Consensus	A	U	U	A	G	A	U	A	C
C. Nucleotide distribution in all known organisms^c									
A	1657	2	1	1648	2	1655	5	1664	1
C	6	1	566	9	1	1	12	1	1665
G	4	0	0	3	1662	7	46	2	0
U	1	1664	1101	7	3	3	1605	1	0
Δ	0	1	0	1	0	2	0	0	2
Consensus	A	U	Y	A	G	A	U	A	C

FIGURE 20

Nucleotide ^a 787 795		Mean CAT activity ^b	% Mutant 30 S in 30 S peak ^c 70 S peak ^c		Thermodynamics ^d ΔG_{37}° (kcal/mol)	T _m (°C)
A	C	100	46.1 ± 0.8	41.7 ± 3.3	-3.25	61.8
A	A	83.8 ± 2.5	n.d.	n.d.	-2.90	61.3
C	C	80.5 ± 0.5	n.d.	n.d.	-2.84	60.7
C	U	74.1 ± 3.4	n.d.	n.d.	n.d.	n.d.
A	U	72.1 ± 4.5	74.3 ± 0.5	14.3 ± 1.0	-5.62	75.3
U	U	72.0 ± 2.4	n.d.	n.d.	n.d.	n.d.
G	U	70.5 ± 1.8	56.1 ± 1.4	14.2 ± 0.6	-4.96	68.1
U	C	65.5 ± 2.1	n.d.	n.d.	-2.88	60.6
C	A	53.4 ± 1.0	n.d.	n.d.	n.d.	n.d.
G	G	52.9 ± 0.4	n.d.	n.d.	-3.70	64.9
G	A	46.0 ± 1.4	n.d.	n.d.	n.d.	n.d.
A	G	37.5 ± 0.5	n.d.	n.d.	-3.19	63.5
U	A	36.7 ± 0.4	70.8 ± 7.4	10.1 ± 0.4	-5.82	74.3
U	G	13.5 ± 3.3	57.7 ± 12.1	5.5 ± 3.4	-5.15	69.4
G	C	5.5 ± 1.8	58.3 ± 8.2	5.1 ± 1.3	-7.61	83.4
C	G	1.2 ± 0.1	n.d.	n.d.	n.d.	n.d.

FIGURE 21

GACGCCGGCAAGAGCAACTCGTCGCCCATACACTATTCTAGAATGACTTGG
TTGAGTACTCACCAAGTCACAGAAAAGCATCTTACGGATGGCATGACAGTAAGAGAA
TTATGCAGTGCTGCCATAACCATGAGTGATAACACTGCGGCCAACTTACTCTGAC
AACGATCGGAGGACCGAAGGAGCTAACCGCTTTTGACAAACATGGGGATCAT
GTAACTCGCCTGATCGTGGAACCGGAGCTGAATGAAGCCATACAAACGACG
AGCGTGACACCACGATGCCTGCAGCAATGGCAACAACGTTGCGCAAACATTAAAC
TGGCGAACTACTTACTCTAGCTCCCGCAACAATTAAATAGACTGGATGGAGGCG
GATAAAGTTGCAGGACCACTCTCGCCTGGCCCTCCGGCTGGCTGGTTATTG
CTGATAAAATCTGGAGCCGGTGAGCGTGGGTCTCGCGGTATCATTGCAACTGGG
GCCAGATGGTAAGCCCTCCGTATCGTAGTTATCTACACGACGGGAGTCAGGCA
ACTATGGATGAACGAAATAGACAGATCGCTGAGATAGGTGCCTCACTGATTAAGCA
TTGGTAACTGTCAAGACCAAGTTACTCATATAACTTAGTTAGATTGATTTAAAACCTCAT
TTTAATTAAAAGGATCTAGGTGAAGATCCTTTGATAATCTCATGACCAAAATC
CCTAACGTGAGTTCTGTTCCACTGAGCGTCAGACCCCTAATAAGATGATCTTC
TTGAGATCGTTGGTCTCGCGTAATCTCTGCTCTGAGCTACCAACTCTTGAACCGAGGTAA
TGCAGGGCGGTTTCGAAGGTTCTGAGCTACCAACTCTTGAACCGAGGTAA
CTGGCTTGAGGAGCGCAGTCACCAAAACTTGTCTTCAGTTAGCCTTAACCG
GCGCATGACTTCAAGACTAACTCCTCTAAATCAATTACCGAGTGGCTGCTGCCAGTG
GTGCTTTCGATGTCTTCCGGGTTGGACTCAAGACGATAGTTACCGGATAAGGC
GCAGCGGTGGACTGAACGGGGGGTCGTGCATACAGTCCAGCTGGAGCGAAC
TGCCTACCCGGAACGTAGTGTCAAGCGTGAATGAGACAAACGCGGCCATAACA
GCGGAATGACACCGTAACCGAAAGCAGGAACAGGAGAGCGCACGAGGGAGC
CGCCAGGGGGAAACGCCTGGTATCTTATAGTCCTGCGGTTGCCACCACTG
ATTGAGCGTCAGATTGATGCTGTCAGGGGGCGGAGCCTATGGAAAAAC
GGCTTGCCTCGGCCCTCACTTCCCTGTTAAGTATCTTCCCTGGCATCTCCAGG
AAATCTCCGCCCCGTTGTAAGCCATTCCGCTGCCGCAGTCGAACGACCGAGC
GTAGCGAGTCAGTGAGCGAGGAAGCGGAATATATCCTGTATCACATATTCTGCTG
ACGCAACGGTGCAGCCTTTCTCCTGCCACATGAAGCACTTCACTGACACCCCTC
ATCAGTGCCAACATAGTAAGCCAGTATAACACTCCGCTAGCGCTATATGCGTTATGCAATTCTA
GCATGCCAGTCAGTGCAGCGTGTGCTAGCGCTATATGCGTTATGCAATTCTA
TGCGCACCGTTCTGGAGCACTGTCCGACCGCTTGGCCGCCAGTCCTG
CTCGCTCGCTACTGGAGCACTATCGACTACGCGATCATGGCACCACACCCG
TCCGTGGATCCTCTACGCCGGACGCATCGTGGCCGCCAGATGCGTCCGGCG
TAGAGGATCTATTAAACGACCTGCCCTGAACCGACGACCGGGTCGAATTGCTT
CGAATTCTGCCATTCCGCTTATTACTTATTCACTTATTCACTGAGCGTAGCACCAGGCGT
TTAAGGGACCAATAACTGCCCTAAAAAAATTACGCCCGCCCTGCCACTATCGC
AGTACTGTTGTAATTCAAGCATTGCGCAGATGGAAGCCATCACAGACGGCA
TGATGAACCTGAATGCCAGCGGATCAGCACCTGTCGCCCTGCGTATAATT
GCCCATGGTAAAACGGGGCGAAGAAGTTGCCATATTGCCACGTTAAATCA
AAACTGGTAAAACCTACCCAGGGATTGGCTGAGACGAAAACATATTCTCAATAAA
CCCTTAGGGAAATAGGCCAGGTTTACCGTAACACGCCACATCTTGCAGATATA
TGTGTAGAAACTGCCGGAAATCGTCGTGGTATTCACTCCAGAGCGATAAAACGT
TTCAGTTGCTCATGGAAAACGGTGTAACAAGGGTGAAACACTATCCCATATCACCA
GCTCACCGTCTTCATTGCCATACGGATTCCGGATGAGCATTGATCAGGCCGGC
AAGAATGTGAATAAAAGGCCGGATAAAACTGTGCTTATTTCAGGTCTTAA
AAAGGCCGTAAATCCAGCTGAACGGTCTGGTTAGGTACATTGAGCAACTGACT

FIGURE 22

GAAATGCCTAAATGTTCTTACGATGCCATTGGGATATATCACCGTGGTATAT
CCAGTGATTTCTCATTCTGAGCACACTGAAAGCGGCCGCTCCACACAT
TAAACTAGTTGATGATTAATTGTCAACAGCTGCCGCTATATGCGTTGATGCAATT
TCTATGCGCACCCGTTCTGGAGCACTGTCGACCGCTTGGCCGCCAGTC
CTGCTCGCTCGCTACTGGAGCCACTATCGACTACGCGATCATGGCGACCACAC
CCGTCCTGTGGATCCCAGACGAGTTAAGTACCCATACGTTAGTACAGGTTGCCAC
TCTTTGGCAGACGCAGACCTACGGCTACAATAGCGAAGCGGTCTGGTATTCT
GTTAAAAAACTGTCGCGATAGCAAAACGGCACTCTTGGCAGTTAAGCGCACT
TGCTTGCCCTGTCGCCAGTTCAACAGAAATCAACATAAGCGAAACTCGCTGTAATT
TACGCCATAAGCACCAATTCTGGATAGGTGATGAGCCGACACAACCAGGAATTA
ATGCCAGATTTCCAGACCAAGGCATACCTCCTGCAAAGTGTATTTACCAAGACGA
TGCCAGTTCTCGGCTCTACATGTAATACACCGCATCAGGTTCATCATGAAT
TTCGATACTTGTACCGGTTGATGATCACCGTGCCGCGATAGTCCTCCAGAAAAA
GTACATTACTCCTCACCCAGAATAAGAACGGGTTGTCCTCTGCGGTGCGATAC
TGCCAGGCATTGAGTAATTGTTGTCGTCGGCACATACAATGTGCTGAGCATT
ATGATCAATGCCAAATGTGTTCCAGGGTTAAGGAGTGGTCAGTGTGCTTCC
TGATGCAAAACGAGGCTAGTTACCGTATCTGTGGGGGGATGGCTGTAGATAT
GACGACAGGAAGAGTTGAGAAACGCAAAAGGCCATCCGTCAAGGATGGCCTTC
TGCTTAATTGATGCCTGGCAGTTATGGCGGGCGCTGCCCACCCCTCCGG
GCCGTTGCTTCGCAACGTTCAAATCCGCTCCGGGGATTGTCCTACTCAGGAG
AGCGTTACCGACAAACACAGATAAAACGAAAGGCCAGTCTTCGACTGAGCC
TTTCGTTTATTGATGCCTGGCAGTTCCCTACTCTCGCATGGGGAGACCCACAC
TACCATCGGCGTACGGCTTCACTCTGAGTTGGCATGGGTCAAGGTGGGAC
CACCGCGCTACTGCCGCCAGGCAAATTCTGTTTATCAGACCGCTCTGCGTTG
ATTTAATCTGTACAGGCTGAAAATCTTCTCTACCGCCAAACAGCTCGGCGT
TGTAAGGTTAACGCTCACGGTTATTAGTACCGGTTAGCTCAACGCGATCGCTGCG
CTTACACACCGGCCTATCAACGTCGTCGTCCTAACGTTCTCAGGACCCCTAA
AGGGTCAGGGAGAACTCATCTGGGCAAGTTCTGCTTAGATGCTTCAAGCAC
TTATCTCTCGCATTAGCTACCGGGCAGTGCCATTGGCATGACAACCCGAACAC
CAGTGATGCGTCACTCCGGTCTCGTACTAGGAGCAGCCCCCTCAGTTCTC
CAGCGCCCACGGCAGATAGGGACCGAAGTGTCTCACGACGTTCAAACCCAGCTC
GCGTACCACTTTAAATGGCGAACAGCCATACCTGGGACCTACTCAGCCCCAG
GATGTGATGAGCCGACATCGAGGTGCCAACACCCGGCTGATATGAACCTTGG
GCGGTATCAGCCTGTTATCCCCGGAGTACCTTTATCCGTTGAGCGATGGCCCT
CCATTAGAACCACCGGATCACTATGACCTGCTTCGCACCTGCTCGCCGTCA
CGCTCGAGTCAAGCTGGCTTATGCCATTGCACTAACCTCTGATGTCGACAG
GATTAGCCAACCTTCGTCGCTCTCGTTACTCTTAGGAGGAGACGCCAGTC
AAACTACCCACCAAGACACTGTCGCAACCCGGATTACGGGCAACGTTAGAACAT
CAAACATTAAAGGGTGGTTTCAAGGTGGCTCATGCAGACTGGCGTCCACAC
TTCAAAGCCTCCCACCTATCCTACACATCAAGGCTCAATGTTAGTGTCAAGCTAT
AGTAAAGGTTACGGGTCTTCCGTCTGCGCGGGTACACTGCATCTTCACAG
CGAGTTCAATTCACTGAGTCTCGGGTGGAGACAGCCTGGCCATATTACGCCAT
TCGTGCAGGTGCGAACCTACCGACAGGAATTGCGTACCTTAGGACCGTTATA
GTTACGGCCGCCGTTACCGGGGCTTCGATCAAGAGCTTCGCTGCGCTAACCCCC
ATCAATTAAACCTCCGGCACCGGGCAGGCGTCACACCGTATACGTCCACTTCGT
GTTGCAAGTGTGTTTAATAAACAGTTGCAGCCAGCTGGTATCTCGACT

FIGURE 22 Cont.

GATTCAGCTCCATCCGCGAGGGACCTCACCTACATATCAGCGTGCCTTCTCCCG
AAGTTACGGCACCATTTGCCTAGTCCTCACCCGAGTTCTCAAGCGCCTTGG
TATTCTCTACCTGACCACCTGTGCGGTTGGGTACGATTGATGTTACCTGATG
CTTAGAGGGCTTCTGGAAAGCAGGGCATTGTTGCTTCAGCACCGTAGTGCCTC
GTCATCACGCCCTAGCCTTGATTTCCGGATTGCTCGGAAAACCAGCCTACACGC
TTAAACCGGGACAACCGTCGCCCGGCCAACATAGCCTCTCCGTCCCCCTTCGC
AGTAACACCAAGTACAGGAATTAACCTGTTCCCATCGACTACGCCCTTCGGCC
TCGCCTTAGGGGTCGACTCACCCCTGCCCGATTAACGTTGGACAGGAACCTTGG
TCTTCCGGCGAGCGGGCTTTCACCGCTTATCGTTACTTATGTCAGCATTGCA
CTTCTGATACCTCAGCATGCCCTCACAGCACACCTCGCAGGCTTACAGAACGCT
CCCCTACCAACAACGCATAAGCGTCGCTGCCAGCTCGGTGCATGGTTAGC
CCCAGTACATCTCCGCGAGGCCACTCGACCAGTGAGCTATTACGCTTCTTA
AATGATGGCTGCTTAAGCCAACATCCTGGCTGTCGGCCTTCCCACATCGTT
CCCACTTAACCATGACTTGGGACCTTAGCTGGCGGTCTGGGTTGTTCCCTCTC
ACGACGGACGTTAGCACCCGCCGTGTCCTCCGTGATAACATTCTCCGGTATT
GCAGTTGCATCGGGTTGTAAGTCGGGATGACCCCCCTGCCGAAACAGTGCTCT
ACCCCCGGAGATGAATTACGAGGGCCTACCTAAATAGCTTGGGGAGAACAG
CTATCTCCGGTTGATTGGCCTTCACCCCCAGCCACAAGTCATCCGCTAATTT
TCAACATTAGTCGGTCGGTCCTCAGTTAGTGTACCCAACCTCAACCTGCCA
TGGCTAGATCACCGGGTTCGGGTCTACCCCTGCAACTAACGCCAGTTAAGA
CTCGGTTCCCTCGGCTCCCTATTCGGTTAACCTGCTACAGAATATAAGTCGC
TGACCCATTATACAAAAGGTACGCACTCACGCCCTAACGCGTCTCCACTGCTT
GTACGTACCGGTTAGGTTCTTCACTCCCTCGCCGGGTTCTTCGCT
TTCCTCACGGTACTGGTTCACTATCGGTAGTCAGGAGTATTAGCCTGGAGGA
TGGTCCCCCATATTAGACAGGATACCACGTGTCCCGCCCTACTCATCGAGCTC
ACAGCATGTGCACTTGATCGGGCTGTCAACCTGTATCGCGCCCTTCCA
GACGCTCCACTAACACACACTGATTCAAGGCTCTGGGCTGCTCCCCGTTGCT
CGCGCTACTGGGGAAATCTCGGTTGATTCTTCTCGGGGACTTAGATGTT
CAGTTCCCCCGGTTGCCCTATTAAACCTATGGATTAGTTAATGATAGTGTGCGA
AACACACTGGTTCCCCATTAGGAAATGCCGGTTAACGGTTATACACCT
ACCGACGCTTATCGCAGATTAGCACGTCTCATGCCCTGACTGCCAGGGCAT
CCACCGGTACGCTTAGTCGCTAACCTACAAACCGAAGATGTTCTTCGATT
ATCATCGTGTGCAAAATTGAGAGACTCACGAACAACCTCGTTGTTAGTGT
TCAATTTCAGCTTGTGATCCAGATTAAAGAGCAAAATCTAAACATCACCCGAA
GATGAGTTGAGATATTAGGTCGGGACTTCACTCACAAACAGCAAGTGG
GTCCTCTAGGGGATTGAAACCCCTGTTACCGCCGTGAAAGGGCGGTCTGGG
CCTCTAGACGAAGGGGACACGAAAATTGCTTATCACCGCTGCGTGTATTTG
GTAGGGTGAGCTTCAATTAGAAAGCGAACGGCCTTATTCTCTTCAGCCTCACT
CCCAACCGCTAACGCCCTGCTTCACTTCTATCAGACAACTGTGTGAGCACT
ACAAAGTACGCTTCAAGGTAAGTGTGTGATCCAACCGCAGGTTCCCTACGGT
TACCTGTTACGACTTCACCCCACTGATGAATCACAAAGTGGTAAGGCCCTCCG
AAGGTTAACGCTACCTACTTCTTGCACCCACTCCATGGGTGACGGGGCGGTG
TGTACAAGGCCGGAACGTATTACCGTGGCATTGATCCACGATTACTAGCG
ATTCCGACTTCATGGAGTCGAGTTGCAGACTCCAATCCGGACTACGACGCACTTA
TGAGGTCCGCTTGCTCTCGCAGGGTGTGCTCTTGTATGCGCCATTGTAGCAC
GTGTGTAGCCCTGGTCGTAAGGGCCATGATGACTTGACGTACCCCCACCTTCT

FIGURE 22 Cont.

App No.: Not Yet Assigned

Docket No.: WSV-2597

Inventor: Phillip R. Cunningham

Title: METHODS AND COMPOSITIONS FOR THE
IDENTIFICATION OF ANTIBIOTICS THAT ARE NOT
SUSCEPTIBLE TO ANTIBIOTIC RESISTANCE

CCAGTTTATCACTGGCAGTCTCCTTGAGTCCCCGGCCGGACCGCTGGCAACAAA
GGATAAGGGTTGCGCTCGTTGCGGGACTTAACCAACATTACAACACGAGCTG
ACGACAGCCATGCAGCACCTGTCTCACGGTCCCGAAGGCACATTCTCATCTG
AAAACCTCCGTGGATGTCAAGACCAGGTAAAGGTTCTCGCGTTGCATCGAATTAAA
CCACATGCTCCACCGCTTGTGCGGGCCCCGTCAATTCAATTGAGTTAACCTG
CGGCCGTACTCCCCAGGCAGGTCAACTAACCGCTAGCTCCCGAAGGCCACGCCT
CAAGGGACAACCTCCAAGTCGACATCGTTACGGCGTGGACTACCAGGGTATCT
AATCCTGTTGCTCCCCACGCTTCGCACCTGAGCGTCAGTCTCGTCCAGGGGG
CCGCCTCGCCACCGGTATTCCCTCAGATCTACGCATTACCGCTACACCTG
GAATTCTACCCCCCTTACGAGACTCAAGCTGCCAGTATCAGATGCAGTCCCAG
GTTGAGCCCGGGGATTTCACATCTGACTTAACAAACCGCCTGCGTGCCTTACG
CCCAGTAATTCCGATTAACGCTTGACCCCTCCGTATTACCGCAGCTGGCACG
GAGTTAGCCGGTCTTCTGCGGGTAACGTCAATGAGCAAAGGTATTAACCTTA
CTCCCTTCCCTCCCCGCTGAAAGTACTTACAACCCGAAGGCCCTTTCATACACGC
GGCATGGCTGCATCAGGCTTGCAGCCATTGTGCAATTACCGCTGCTGCCTCC
CGTAGGAGTCTGGACCGTGTCTCAGTCCAGTGTGGCTGGTCATCCTCAGACC
AGCTAGGGATCGTCGCCACTGGTGGCCATTACCGTCAAGCTAACCGCT
TGGGACATCCGATGGCAAGAGGCCGAAGGTCCCCCTTTGGTCTTGCAGCT
TATGCGGTATTAGCTACCGTTCCAGTAGTTATCCCCCTCCATCAGGCAGTCCC
AGACATTACTCACCGTCCGCCACTCGTCAGCAAAGAAGCAAGCTTCTCCTGTTA
CCGTTGACTTGCATGTGTTAGGCCTGCCAGCGTTCAATCTGAGCCATGATC
AAACTCTCAATTAAAGTTGACGCTCAAAGAATTAAACTCGTAATGAATTACG
TGTTCACTCTTGAGACTTGGTATTCACTTCGTCTTGCAGCTTAAAGAATCCGTAT
CTTCGAGTGCCACACAGATTGTCGATAAAATTGTTAAAGAGCAGTGGCCTTCGC
TTTTCTCAGCGGCCGTGTGAAATTGTTATCCGCTACAATTCCACACATTATA
CGAGCCGAAGCATAAAGTGTAAAGCCTGGGTGCTTAATGAGTGAGCTAACTCA
CATTAATTGCGTTGCGCTACTGCCGCTTCCAGTCGGAAACCTGCGTGC
GCTGCATTAATGAATCGGCCAACGCCGGGGAGAGGGCGTTGCGTATTGGCG
CCAGGGGGTTTCTTCAACCGTGTGAGACGGCAACAGCTGATTGCCCTTCAC
CGCCTGCCCTGAGAGAGTTGAGCAAGCGGTCCACGCTGGTTGCCAGCAG
GCGAAAATCCTGTTGATGGTGGTTGACGGCGGGATAACATGAGCTGTCTCG
GTATCGCTGATCCCACTACCGAGATATCCGCACCAACCGCGAGCCCGACTCGG
TAATGGCGCGCATTGCGCCAGGCCATCTGATCGTTGGCAACCAGCATCGCACT
GGGAACGATGCCCTCATTCACTGATGGTTGAAACCGGACATGGCA
CTCCAGTCGCCTTCCGCTATCGGCTGAATTGATTGCGAGTGAGATATT
ATGCCAGCCAGCCAGACGCAGACCGCGAGACAGAACTTAATGGCCCGCTAA
CAGCGCGATTGCTGGTGACCCAAATGCGACCGAGATGCTCCACGCCAGTCGCGTA
CCGTCTTCATGGAGAAAATAACTGTTGATGGGTGCTGGTCAAGAGACATCAAG
AAATAACGCCGAACATTAGTCAGGCAGCTTCAACAGCAATTGCGATCCTGGTCA
TCCAGCGGATAGTTAATGATCAGCCACTGACCCGTTGCGCGAGAAGATTGCA
CCGCCGCTTACAGGCTTCGACGCCGCTTCTACCATCGACACCACCGCT
GGCACCCAGTTGATGGCGCGAGATTAAATGCCGCGACAATTGCGACGGCG
GTGCAAGGGCCAGACTGGAGGTGGCAACGCCAATCAGCAACGACTGTTGCCCGC
CAGTTGTTGTCACGCCGTTGGAAATGTAATTCACTGCCCATGCCGCTTCC
ACTTTTCCCGCGTTTGCAGAAACGTGGCTGGCCTGGTTCAACCACGCCGGAAA
GGGCTGATAAGAGACACCGCATACTCTGCGACATCGTAAACGTTACTGGTTT

FIGURE 22 Cont.

ACATTCAACCACCTGAATTGACTCTTCCGGCGCTATCATGCCATACCGCGAAA
GGTTTGCACCATTGATGGTGTGGATCCTAGAGCGCACGAATGAGGGCCGACA
GGAAGCAAAGCTGAAAGGAATCAAATTGCCGCAGGCCTACCGTGGACAGGAA
CGTCGTGCTGACGCTTCATCAGAAGGGCACTGGTCAACGAAATTGCTCATCAG
CTCAGTATTGCCCGCTCCACGGTTATAAAATTCTGAAGACGAAAGGGCCTCGTG
CATACGCCTATTTTATAGGTTAATGTCATGATAATAATGGTTCTTAGACGTCAAGG
TGGCACTTTGGGGAAATGTGCGCGGAACCCCTATTGTTATTCTAAATAC
ATTCAAATATGTATCCGCTCATGAGACAAATAACCCCTGATAAAATGCTTCAATAATATT
GAAAAAGGAAGAGTATGAGTATTCAACATTCCGTGTCGCCCTTATCCCTTTTG
CGGCATTTCGCCTCCTGTTTGTCAACCCAGAAACGCTGGTGAAGTAAAGAT
GCTGAAGATCAGTTGGGTGCACGAGTGGTTACATCGAACTGGATCTAACAGCG
GTAAGATCCTTGAGAGTTTCGCCCGAAGAACGTTCCAATGATGAGCACTTTT
AAAGTTCTGCTATGTGGCGCGGTATTATCCCGTGT

FIGURE 22 Cont.

App No.: Not Yet Assigned

Inventor: Phillip R. Cunningham

Docket No.: WSV-2597

Title: METHODS AND COMPOSITIONS FOR THE
IDENTIFICATION OF ANTIBIOTICS THAT ARE NOT
SUSCEPTIBLE TO ANTIBIOTIC RESISTANCE

GATCCTCTACGCCGGACGCATCGTGGCCGCCACGATGCGTCCGGCGTAGAGGA
TCTATTTAACGACCCCTGCCCTGAACCGACGCCGGGTCGAATTGCTTCGAATT
CTGCCATTCCATCGCTTATTATCACTTATTCAAGGCGTAGCACCAGGCCTTAAGGG
CACCAATAACTGCCCTAAAAAAATTACGCCCGCCCTGCCACTCATCGCAGTACTG
TTGTAATTCTTAAGCATTCTGCCGACATGGAAGCCATCACAGACGGCATGATGAA
CCTGAATGCCAGCGGCATCAGCACCTTGTGCGCTTGCCTATAATATTGCCCATG
GTGAAAACGGGGCGAAGAAGTTGCTCATATTGCCACGTTAAATCAAAACTGG
TGAAACTCACCCAGGGATTGGCTGAGACGAAAAACATATTCTCAATAAACCCCTTA
GGGAAATAGGCCAGGTTTACCGTAACACGCCACATCTGCGAATATATGTGTAG
AAACTGCCGGAAATCGTCGTGGTATTCACTCCAGAGCGATGAAACACTATCCCATATCACCAGCTCACC
GCTCATGGAAAACGGTGTAAACAAGGGTGAACACTATCCCATATCACCAGCTCACC
GTCTTCATTGCCATACGGAATTCCGGATGAGCATTCTGCGAATATATGTGTAG
TGAATAAAGGCCGGATAAAACTTGTGCTTATTTTCTTACGGTCTTAAAAAGGCC
GTAATATCCAGCTGAACGGCTGGTTATAGGTACATTGAGCAACTGACTGAAATGC
CTCAAAATGTTCTTACGATGCCATTGGATATCAACGGTGGTATATCCAGTGA
TTTTTCTCCATTGCGGAGGGATATGAAAGCGGCCGCTTCACACATTAAACTA
GTTCGATGATTAATTGTCACAGCTCGCCGGCACCTCGTAACGGATTACCC
ACTCCAAGAATTGGAGCCAATCGATTCTTGCAGGAACTGTGAATGCCAAACCA
ACCCCTGGCAGAACATATCCATCGCGTCCGCCATCTCCAGCAGCCGACGCC
GCATCTCGGGCAGCGTTGGTCTGGCCACGGGTGCGCATGATCGTGCCTGT
CGTTGAGGACCCGGCTAGGCTGGCGGGTTGCCTTACTGGTTAGCAGAATGAATC
ACCGATAACGCGAGCGAACGTGAAGCGACTGCTGCTGAAAACGCTCTGCGACCTG
AGCAACAACATGAATGGTCTTCCGTTCCGTAAAGTCTGAAACGCCGA
AGTCAGGCCCTGCACCATATTGTCGGATCTGGGTACCGAGCTCGAATTCACT
GGCCGTGTTTACAACGTCGTGACTGGAAAACCCCTGGCTTACCCAACTTAAT
CGCCTTGAGCACATCCCCCTTCGCCAGGCATCGCAGGATGCTGCTGGCTACCC
TGTGAAACACCTACATCTGATTAACGAAGCGCTGGCATTGACCCCTGAGTGA
TCTCTGGTCCCAGCATCCATACCGCCAGTTGTTACCCCTACAACGTTCCAGTA
ACCGGGCATGTTCATCATCAGTAACCCGTATCGTAGCATCCTCTCGTTCATC
GGTATCATTACCCCCATGAACAGAAATTCCCCCTACACGGAGGCATCAAGTGACC
AAACAGGAAAAACGCCCTTAACATGGCCGCTTATCAGAAGCCAGACATCTGAA
GCTTCTGGAGAAACTCAACGAGCTGGACGCCGATGAAACAGGAGACATCTGAA
TCGCTTACGACCACGCTGATGAGCTTACCGCAGCTGCCTCGCGCTTCCGGT
ATGACGGTAAAAACCTCTGACACATGCAGCTCCGGAGACGGTCACAGCTTGTCT
GTAAGCGGATGCCGGAGCAGACAAGCCCGTCAGGGCGCGTCAGCGGGTGTG
GCGGGTGTGGGGCGCAGCCATGACCCAGTCACGTAGCGATAGCGGAGTGTATA
CTGGCTTAACTATGCGGCATCAGAGCAGATTGACTGAGAGTGCACCATATGCC
TGTGAAATACCGCACAGATGCGTAAGGAGAAAATACCGCATAGGCCCTTCCG
CTTCCTCGCTACTGACTCGCTGCCCTGGCTGGCTGGCTGCCGAGCGGTAT
CAGCTCACTCAAAGGCCGTAATACGGTTATCCACAGAATCAGGGGATAACGCC
AAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAGGCC
GTTGCTGGCTTTCCATAGGCTCCGCCCTGACGAGCATCACAAAATCGA
CGCTCAAGTCAGAGGTGGCAGACAGGACTATAAGATAACCGAGCGTTTC
CCCCTGGAGCTCCCTCGCTGCCCTGGCTGGCTTCTCATAGCTCACGCTGT
CCTGCTCCCTTCTCCCTGGAGCGTGGCGCTTCTCATAGCTCACGCTGT
AGGTATCTCAGTCGGTAGGTCGCTCCAAGCTGGCTGTGACGAAC

FIGURE 23

App No.: Not Yet Assigned

Docket No.: WSV-2597

Inventor: Phillip R. Cunningham

Title: METHODS AND COMPOSITIONS FOR THE
IDENTIFICATION OF ANTIBIOTICS THAT ARE NOT
SUSCEPTIBLE TO ANTIBIOTIC RESISTANCE

CCCCCGTTCAGCCGACCGCTGCGCCTTATCCGGTAACACTATCGTCTTGAGTCCAA
CCCGGTAAGACACGACTTATGCCACTGGCAGCAGCCACTGGTAACAGGATTAGC
AGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTGAAGTGGTGGCCTAACTACG
GCTACACTAGAAGGACAGTATTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTC
GGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTG
GTTTTTTGTTGCAAGCAGCAGATTACGCCAGAAAAAAAGGATCTAAGAAGAT
CCTTGATCTTCTACGGGTCTGACGCTCAGTGGAACGAAAACACGTTAAGG
GATTTGGTCATGAGATTATCAAAAGGATCTCACCTAGATCTTTAAATTAAA
ATGAAGTTAAATCAATCTAAAGTATATAGAGTAAACTTGGTCTGACAGTTACCA
ATGCTTAATCAGTGAGGCACCTATCAGCGATCTGTCTATTCGTTCATCCATAGT
TGCCTGACTCCCCGTGCTGAGATAACTACGATAACGGGAGGGCTTACCATCTGGC
CCCAGTGTGCAATGATACCGCGAGACCCACGCTCACCGGCTCCAGATTATCAG
CAATAAACCAGCCAGCCGAAGGGCCGAGCGCAGAAGTGGCCTGCAACTTATC
CGCCTCCATCCAGTCTATTAAATTGTCGCCATTGCTGCAGGCATCGTGGTCACGCT
GTTAATAGTTGCGCAACGTTGTCATTGCTGCAGGCTTCCAAACGATCAAGGCGAGTTAC
CGTCGTTGGTATGGCTTATTGAGCTCCGGTTCCAAACGATCAAGGCGAGTTAC
ATGATCCCCATGTTGCAAAAAAGCGGTTAGCTCCTCGGTCTCGATCGTTG
TCAGAAGTAAGTTGGCGCAGTGTATCACTCATGGTTATGGCAGCACTGCATAAT
TCTCTTACTGTCATGCCATCCGTAAGATGCTTCTGTGACTGGTAGACTCAAC
CAAGTCATTCTGAGAATAGTGTATGCGGCACCGAGTTGCTCTGCCGGCGTCA
ACACGGGATAATACCGGCCACATAGCAGAACCTTAAAGTGTCTCATATTGGAAA
ACGTTCTCGGGCGAAAACCTCAAGGATCTTACCGCTGTTGAGATCCAGTTCG
ATGTAACCCACTCGTGACCCAACGTATCTCAGCATCTTACTTCAACCAGCGT
TTCTGGGTGAGCAAAACAGGAAGGCAAAATGCCGCAAAAAGGGAATAAGGGCG
ACACGGAAATGTTGAATACTCATACTCTCCTTTCAATATTGAAAGCATTATC
AGGGTTATTGTCATGAGCGGATACATATTGAATGTATTAGAAAATAACAAA
TAGGGGTTCCGCGCACATTCCCCGAAAAGTGCCACCTGACGTCTAAGAAACCAT
TATTATCATGACATTAACCTATAAAATAGGCGTATCAGGCCCCCTCGTCTCA
AGAATTCTCATGTTGACAGCTTATCATGATAAGCTTAATGCGGTAGTTATCAC
AGTTAAATTGCTAACGCAGTCAGGCCCGTGTATGAAATCTAACATGCGCTCATC
GTCATCCTCGGCACCGTACCCCTGGATGCTGTAGGCATAGGCTGGTATGCCGG
TAATGCCGGGCCTTGCCTGGGATATCGTCATTGCCACAGCAGTCAGTCA
GGCGTGTGCTAGCGCTATATGCGTTGATGCAATTCTATGCGCACCCGTTCTC
GGAGCACTGTCCGACCGCTTGGCCGCCAGTCCTGCTCGCTCGCTACTTG
GAGCCACTATCGACTACCGCATGGCGACCACACCGCTCTGTGGATCCAGA
CGAGTTAAGTCACCATACGTTAGTACAGGTTGCCACTCTTGGCAGACGCA
TACGGCTACAATAGCGAACGGCTCTGGTATTGATGTTAAAGTACTGCGGAT
AGCCAAAACGGCACTCTTGGCAGTTAGCGCACTGCTGCCAGTTC
AACAGAATCAACATAAGCGCAAACCTCGCTGTAATTCTACGCCATAAGCACCAATAT
TCTGGATAGGTGATGAGCGACACAACCAGGAATTATGCCAGATTTCAGACCA
GGCATACTTCCCTGCAAAGTGTATTACAGACGATGCCAGTTCTCCGGCTCC
TACATGTAATACCAACGCACTGAGGTTCATGATGAAATTGATACCTTGATCCGGTT
GATGATCACCGTGCCCGCATAGTCCTCCAGAAAAGTACATTACTTCCTTCACCCA
GAATAAGAACGGGTTGTCCTCTGCGGTTGCATACTGCCAGGCATTGAGTAATTGT
TGTCGTTCTCGGCACATACAATGTGCTGAGCATTATGATCAATGCCAAATGTGTT
CCAGGGTTAAGGAGTGGTCAGCTGCTTCTGATGCCAAACGAGGCTAGT

FIGURE 23. Cont.

TTACCGTATCTGTGGGGGATGGCTTGTAGATATGACGACAGGAAGAGTTGTAG
AAACGCAAAAGGCCATCCGTCAAGGATGGCCTTCTGCTTAATTGATGCCCTGGCA
GTTTATGGCGGGCGTCCTGCCGCCACCCCTCCGGGCCGTTGCTTCGCAACGTC
AAATCCGCTCCC GGCGGATTGTCCTACTCAGGAGAGCGTTACCGACAAACAAAC
AGATAAAACGAAAGGCCAGTCTTCGACTGAGCCTTCGTTTATTGATGCCCTG
GCAGTTCCCTACTCTCGCATGGGAGACCCACACTACCATCGGCCTACGGCGT
TTCACTTCTGAGTCGGATGGGTCAAGGAGGGACCCACCGCGCTACTGCCGCCA
GGCAAATTCTGTTTATCAGACCGCTTCTGCGTTCTGATTAATCTGTATCAGGCT
GAAAATCTCTCTCATCCGCCAAACAGCTCGCGTTAAGGTTAACGCTCACG
GTTCAATTAGTACCGGTTAGCTAACGCATCGCTGCGCTTACACACCCGGCTATCA
ACGTCGTCTCAACGTTCCAGGACCTAAAGGGTCAGGGAGAACTCAT
CTCGGGGCAAGTTCTGCTTAGATGCTTCAAGCAGCTTACGACTTCTCCGCATTAGC
TACCGGGCAGTGCCATTGGCATGACAACCCGAACACCAAGTGATGCGTCCACTCCG
GTCCTCTCGTACTAGGAGCAGCCCCCTCAGTTCTCAGCGCCCACGGCAGATAG
GGACCGAAGTGTCTCACGACGTTCAAACCCAGCTCGCGTACCACTTAAATGGC
GAACAGCCATACCCCTGGGACCTACTTCAGCCCCAGGATGTGATGAGCCGACATC
GAGGTGCCAAACACCGCCGTCGATATGAACCTTGGCGGTATCAGCCTGTTATC
CCCGGAGTACCTTTATCCGTTGAGCGATGGCCCTTCATTAGAACCACCGGAT
CACTATGACCTGCTTCGACCTGCTCGGCCGTACGCTCGCAGTCAAGCTGGC
TTATGCCATTGCACTAACCTCCTGATGTCGACCAGGATTAGCCAACCTCGTGCT
CCTCCGTTACTCTTAGGAGGAGACCGCCCCAGTCAAACACTACCCACCAAGACACTG
TCCGCAACCCGGATTACGGGTCAACGTTAGAACATCAAACATTAAAGGGTGGTATT
TCAAGGTGGCTCCATGCAACTGGCGTCCACACTTCAAAGCCTCCACCTATCC
TACACATCAAGGCTCAATGTTAGTCAAGCTATAGTAAAGGTTACGGGTCTT
TCCGTCTGCCGCGGGTACACTGCATCTCACAGCGAGTTCAATTCACTGAGTCT
CGGGTGGAGACAGCCTGCCATCATTAGCCTTCGCGTAAACCCATCAATTAAACCTCCGGCACCG
GACAAGGAATTCTGCTACCTTAGGACCGTTAGTTACGGCCGCGTTACCGG
GCTTCGATCAAGAGCTCGCTTGCGCTAACCCATCAATTAAACCTCCGGCACCG
GGCAGGCGTCACACCGTACGTCACCTTCGTTGACAGTGTGTTTA
ATAAACAGTTGCAAGCAGCTGGTATCTCGACTGATTTCAGCTCCATCCGCGAGG
GACCTCACCTACATATCAGCGTGCCTCTCCGAAGTTACGGCACCATTGCTA
GTTCTTCACCCGAGTTCTCAAGCGCCTGGTATTCTCTACCTGACCACCTGTG
TCGGTTGGGTACGATTGATGTTACCTGATGCTTAGAGGGCTTCTGGAAAGCA
GGCATTGTTGCTTCAGCACCGTAGTGCCTCGTACACGCCCTAGCCTGATT
TCGGATTGCTGGAAAACAGCTACACGCTTAAACCGGACAACCGTCGCCC
GGCCAACATAGCCTCTCCGCTCCCCCTCGCAGTAACACCAAGTACAGGAATT
AACCTGTTCCCATCGACTACGCCTTCGGCCTCGCTTACGGGTGACTCACCC
TGCCCCGATTAACGTTGGACAGGAACCCCTGGCTTCCGGGAGCAGGGCTTCA
CCCGCTTATCGTTACTTATGTCAGCATTGCACTTCTGATAACCTCCAGCATGCT
CACAGCACACCTCGCAGGCTTACAGAACGCTCCCTACCCAAACACGCAAAAGC
GTCGCTGCCGCACTTCGGTGATGGTTAGCCCCGTTACATCTCCGCGCAGGC
CGACTCGACCAGTGAGCTATTACGCTTCTTAAATGATGGCTGCTTAAGCCAA
CATCCTGGCTGTCTGGCCTCCACATCGTTCCACTTAACCATGACTTGGGA
CCTTAGCTGGCGGTCTGGGTGTTCCCTTCAAGACGGACGTTAGCACCCGCC
GTGTGTCCTCCGTGATAACATTCTCCGGTATTGCAAGTTGATGGGTGGTAAG
TCGGGATGACCCCTTGCCGAAACAGTGCTTACCCCCGGAGATGAATTACGAG

FIGURE 23 Cont.

GCGCTACCTAAATAGCTTCGGGGAGAACCAAGCTATCTCCGGTTGATTGGCCT
 TTCACCCCCAGCCACAAGTCATCCGCTAATTTCAACATTAGTCGGTTCGGTCCT
 CCAGTTAGTGTACCCAACCTAACCTGCCATGGCTAGATCACCGGGTTCGG
 GTCTATACCTGCAACTAACGCCAGTTAACAGACTCGGTTCCCTCGGCTCC
 ATTCGGTTAACCTGCTACAGAATATAAGTCGCTGACCCATTATACAAAAGGTACG
 CAGTCACACGCCAACCGTGTCCCACTGCTGTACGTACACGGTTCAGGTTCTT
 TTCACCTCCCTGCCGGGTTCTTTCGCCCTCACGGTACTGGTTCACTA
 TCGGTCAAGTCAGGAGTATTAGCCTGGAGGATGGTCCCCCATATTAGACAGG
 ATACACAGTGTCCGCCACTCATCGAGCTCACAGCATGTGCATTTGTGTACG
 GGGCTGTCAACCTGTATCGCGCCTTCCAGACGCTTCACTAACACACAC
 GATTCAAGGCTCTGGGCTGCTCCCCGTCGCTGCCGCTACTGGGGAAATCTGG
 TTGATTCTTCTCGGGTACTTAGATGTTCAGTCCCCGGTTCGCCCTATTA
 ACCTATGGATTCAAGTTAATGATAGTGTGTCGAAACACACTGGGTTCCCCATTGG
 AAATCGCCGGTTAACGGTTATACGCTTACCGACGCTTATCGCAGATTAGCA
 CGTCCTTCATGCCCTCTGACTGCCAGGGCATCCACCGTGTACGCTTAGTCGCTT
 ACCTCACAAACCGAAGATGTTCTCGATTATCATCGTGTGCGAAAATTGAG
 AGACTCACGAACAACCTCGTTGTTCAAGTTCAAGCTTGATCCAGATT
 TTAAAGAGCAAAATCTCAAACATCACCCGAAGATGAGTTTGGAGATATTAGGTC
 GGCGACTTTCACTCACAAACCAAGCAAGTGGCTCCCTAGGGGATTCGAACCCCT
 GTTACCGCCGTGAAAGGGCGGTGTCCTGGCCTCTAGACGAAGGGGACACGAAA
 ATTGCTTATCACCGCTGCGTGTATTTCTGTTAGGGTGGAGCTTCAATTAGA
 AAGCGAACGGCCTTATTCTCTCAGCCTCACTCCCAACCGCTAACGCCCTGCTT
 TCACTTTCTATCAGACAATCTGTGTGAGCACTACAAAGTACGCTTCTTAAGGTAAT
 CCCATGATCCAACCGCAGGTTCCCTACGGTTACCTGTTACGACTTCACCCAGT
 CATGAATCACAAAGTGGTAAGGCCCTCCGAAGGTTAAGCTACCTACTTCTTTG
 CAACCCACTCCCAGGTGTGACGGCGGTGTGTACAAGGCCGGAACGTATT
 ACCGTGGCATTCTGATCCACGATTACTAGCGATTCCGACTTCATGGAGTCGAGTTG
 CAGACTCCAATCCGGACTACGACGCACTTATGAGGTCCGCTGCTCGCGAGG
 TCGCTTCTCTTGATGCCATTGTAGCAGCTGTGAGCCCTGGTCGTAAGGGC
 CATGATGACTTGACGTACACCCACCTTCCAGTTACTGGAGTCGACTCC
 TGAGTTCCCGCCGGACCGCTGGCAACAAAGGATAAGGGTTGCGCTGTTGGG
 GACTTAACCAACATTCAAAACACGAGCTGACGACAGCCATGCAGCACCTGTCT
 CACGGTTCCCGAAGGCACATTCTCATCTGTGAAAACCTCCGTTGAGTCAGACCA
 GGTAAAGGTTCTCGCGTTGACGAAATTAAACACATGCTCACCGCTTGTGCGG
 GCCCCCGTCAATTCAATTGAGTTAACCTTGGCGCGTACTCCCCAGGCCGTCG
 ACTTAACCGCTAGCTCCGGAAAGCCACGCCCTCAAGGGCACAAACCTCCAAGTCGAC
 ATCGTTACGGCGTGGACTACCAGGGTATCTAATCCTGTTGCTCCCCACGCTT
 GCACCTGAGCGTCACTCGTCCAGGGGCCCTCGCCACCGTATTCCCTCC
 AGATCTACGCAATTCAACCGCTACACCTGGAATTCTACCCCTCTACGAGACTC
 AAGCTTGCAGTACGATGCAAGTCCCAAGGTTGAGCCCGGGATTACATCTG
 ACTTAACAAACCGCCTGCGTGCCTTACGCCAGTAATTCCGATTAAACGCTTGCA
 CCCTCCGTATTACCGCGGCTGCTGGCACGGAGTTAGCCGGTCTTCTGCGG
 GTAACGTCAATGAGCAAAGGTATTAACCTTACTCCCTCCCGCTGAAAGTAC
 TTACAAACCGAAGGCCTCTTACACCGGGCATGGCTGCATCAGGCTTGC
 CCATTGTGCAATTACCGCTTACGCTGCCCTCCGTAGGAGTCTGGACCGTGTCTA
 GTTCCAGTGTGGCTGGTACCTCTCAGACCAAGCTAGGGATCGTCGCCCTAGGTGA

FIGURE 23 Cont.

GGCGTTACCCCACCTACTAGCTAATCCCACATGGGACATCCGATGGCAAGAGGC
CCGAAGGTCCCCCTCTTGGCTTGCACGTTATGCGGTTAGCTACCGTTCCA
GTAGTTATCCCCCTCCATCAGGCAGTTCCAGACATTACTCACCCGTCGCCACT
CGTCAGCAAAGAAGCAAGCTTCTCTGTTACCGTTGACTTGCATGTGTTAGGCC
TGCCGCCAGCGTCAATCTGAGCCATGATCAAACACTTCAATTAAAAGTTGACG
CTCAAAGAATTAAACTCGTAATGAATTACGTGTTACTCTTGAGACTGGTATTCA
TTTCGCTTGCACGTTAAGAATCGTATCTCGAGTGCACACAGATTGTCT
GATAAATTGTTAAAGAGCAGTGCCTCGCTTTCTCAGGGCCGCTGTGAA
ATTGTTATCCGCTACAATTCCACACATTACGAGCCGGAAAGCATAAAGTGTAAA
GCCTGGGGTGCCTAATGAGTGAGCTAACTCACATTAAATTGCCTGCGCTACTGC
CCGCTTCCAGTCGGAAACCTGTCGTGCCAGCTGCTTAATGAATCGGCCAACG
CGCAGGGAGAGGGCGTTGCGTATTGGGCCAGGGTGGTTTCTTACCA
GTGAGACGGGCAACAGCTGATTGCCCTCACGCCCTGGCCCTGAGAGAGTTGCA
GCAAGCGGTCCACGCTGGTTGCCAGCAGGCAAACCTGTTGATGGTGGT
TGACGGCGGGATATAACATGAGCTGCTTGGTATCGTGTATCCACTACCGAG
ATATCCGACCAACGCGAGCCGGACTCGGAATGGCGGCATTGCCCTCATTGAGCA
GCCATCTGATCGTGGCAACCAGCATCGCAGTGGAAACGATGCCCTCATTGAGCA
TTGATGGTTGAAACCGGACATGGCACTCCAGTCGCCCTCCGTTCCGCT
ATCGGCTGAATTGATTGCGAGTGGAGATATTATGCCAGCCAGCAGCAGAC
GCGCCGAGACAGAACTTAATGGGCCGCTAACAGCGCGATTGCTGGTACCCAA
TGCAGGAGATGCTCCACGCCAGTCGCGTACCGTCTCATGGAGAAAATAATA
CTGTTGATGGGTGCTGGTCAAGAGACATCAAGAAATAACGCCGAACATTAGTGC
AGGCAGCTTCCACAGCAATGGCATCCTGGTATCCAGCGGAGTGGAGATGAGCA
CCCACTGACCGTTGCGAGAAGATTGCAACCGCCGCTTACAGGCTTCGACG
CCGCTTGTCTACCATCGACACCACCGCTGGCACCCAGTTGATGGCGCGAG
ATTAATGCCGCGACAATTGCGACGGCGCGTGCAGGGCCAGACTGGAGGTGG
CAACGCCAATCAGCAACGACTGTTGCCGCCAGTTGTTGCCCCGCTTACAGGCTTCGACG
AATGTAATTCACTCCGCCATGCCGCTTCACTTTCCCGCTTTCGAGAAA
CGTGGCTGGCCTGGTTACCCACGCCGAAACGGTCTGATAAGAGACACCGGCAT
ACTCTGCGACATCGTATAACGTTACTGGTTACATTACCCACCGTGAATTGACTC
TCTCCGGCGCTATCATGCCATACCGCAAAGGTTTGCACCACTCGATGGTGT
CG

FIGURE 23 Cont.

AAATTGAAGAGTTGATCATGGCTCAGATTGAACGCTGGCGGCAGGCCTAACACA
TGCAAGTCGAACGGTAACAGGAAGAAGCTGCTTCTTGCTGACGAGTGGCGGAC
GGGTGAGTAATGTCTGGGAAACTGCCTGATGGAGGGGGATAACTACTGGAAACG
GTAGCTAATACCGCATAACGTCGCAAGACCAAAGAGGGGGACCTTCGGGCCTCTT
GCCATCGGATGTGCCAGATGGGATTAGCTAGTAGGTGGGTAACGGCTCACCTA
GGCGACGATCCCTAGCTGGTCTGAGAGGATGACCAGCCACACTGGAACGTGAGAC
ACGGTCCAGACTCCTACGGGAGGCAGCAGTGGGAATATTGCACAATGGCGCA
AGCCTGATGCAGCCATGCCCGTGTATGAAGAAGGCCTCGGGTTGTAAGTACT
TTCAGCGGGAGGAAGGGAGTAAAGTTAACCTTGCTCATTGACGTTACCGC
AGAAGAAGCACCAGCTAACCTCGTGCCAGCAGCCCGGTAATACGGAGGGTGCA
AGCGTTAACGGAATTACTGGCGTAAAGCGCACGCAGGCGGTTGTTAACGTAG
ATGTGAAATCCCCGGGCTAACCTGGGAACTGCATCTGATACTGGCAAGCTTGAG
TCTCGTAGAGGGGGTAGAATTCCAGGTGTAGCGGTGAAATGCGTAGAGATCTGG
AGGAATACCGGTGGCGAAGGCGGCCCCCTGGACGAAGACTGACGCTCAGGTGCG
AAAGCGTGGGAGCAAACAGGATTAGATAACCTGGTAGTCACGCCGTAACAGAT
GTCGACTGGAGGTTGTGCCCTTGAGGCGTGGCTCCGGAGCTAACCGTTAAGT
CGACCGCCTGGGAGTACGGCCGCAAGGTTAAACTCAAATGAATTGACGGGGG
CCCGACAAGCGGTGGAGCATGGTTAACGATGCAACCGCAAGAACCTAC
CTGGTC
TTGACATCCACCGGAAGTTTCAGAGATGAGAATGTGCCTCGGGAACCGTGAGAC
AGGTGCTGCATGGCTGTCGTCACTCGTGTGAAATGTTGGGTTAAGTCCCAC
AACGAGCGCAACCCCTATCCTTGTGTTGCCAGCGGTCGGCCGGAACTCAAAGGA
GAACGCCAGTGATAAAACTGGAGGAAGGTGGGATGACGTCAAGTCATCATGCC
TTACGACCAGGGCTACACACGTGCTACAATGGCGCATACAAAGAGAACGACCTC
GCGAGAGCAAGCGGACCTCATAAAAGTGCCTGAGTCGGGATTGGAGTCTGCAAC
TCGACTCCATGAAGTCGGAATCGCTAGTAATCGTGGATCAGAATGCCACGGTGAA
TACGTTCCCGGGCCTGTACACACCGCCCGTCACACCATGGGAGTGGGTTGCAAA
AGAAGTAGGTAGCTAACCTCGGGAGGGCGCTTACCAACTTGTGATTGACT
GGGGTGAAGTCGTAACAAGGTAAACCGTAGGGGAAACCTGCGGTTGGATCATGGG
TTACCTTAAAGAAGCGTACTTGTAGTGCACACAGATTGTCATGAGAAAGTGA
AAAGCAAGCGTTACGCGTGGGAGTGAGGCTGAAGAGAATAAGGCCGTCGCT
TTCTATTAATGAAAGCTACCCCTACAGGAAATATCACGCAACCGTGTGATAAGCAA
TTTCGTGTCCTCGTCTAGAGGCCAGGACACGCCCTTCACGGCGGTAAAC
AGGGGTCGAATCCCTAGGGGACGCCACTGCTGGTTGTGAGTGAAAGTCGCC
GACCTTAATATCTCAAAACTCATCTCGGGTGTGTTGAGATTGCTCTTAA
AATCTGGATCAAGCTGAAAATTGAAACACTGAACAAACGAGAGATTGTTGAGTCT
CTCAAATTCGCAACACGATGATGAATCGAAAGAAACATCTCGGGTTGT
GAGGTTAAGCGACTAACGCTACACGGTGGATGCCCTGGCAGTCAGAGCGATGA
AGGACGTGCTAATCTGCATAAGCGTCGGTAAGGTGATATGAACCGTTATAACCG
GCGATTCCGAATGGGAAACCCAGTGTGTTGACACACTATCATTAACTGAATC
CATAGGTTAATGAGGCGAACCGGGGGAACTGAAACATCTAAGTACCCGAGGAAA
AGAAATCAACCGAGATTCCCCAGTAGCGCGAGCGAACGGGGAGCAGCCAGA
GCCTGAATCAGTGTGTGTTAGTGGAAAGCGTCTGGAAAGGCGCGGATACAGG
GTGACAGCCCCGTACACAAAATGCACATGCTGTGAGCTCGATGAGTAGGGCGG
GACACGTGGTATCCTGTCTGAATATGGGGGGACCATCCTCAAGGCTAAATACTC
CTGACTGACCGATAGTGAACCGTAGCGTGGAGGAAAGGCGAAAAGAACCCGG

FIGURE 24

CGAGGGGAGTAAAAAGAACCTGAAACCGTGTACGTACAACGCACTGGGAGCACCGCT
 TAGGCGTGTGACTCGTACCTTTGTATAATGGGTAGCGACTTATATTCTGTAGCA
 AGGTTAACCGAATAGGGGAGCCGAAGGGAAACCGAGTCTTAACGGCGTTAAGT
 TGCAGGGTATAGACCCGAAACCCGGTGTAGCTAGCCATGGGCAGGTTGAAGGTTG
 GGTAAACACTAACTGGAGGACCGAACCGACTAATGTTAAAAATTAGCGGATGACTT
 GTGGCTGGGGGTGAAAGGCCAATCAAACCGGGAGATAGCTGGTCTCCCCGAAA
 GCTATTTAGGTAGCGCCTCGTGAATTCACTCCGGGGTAGAGCACTGTTCGGC
 AAGGGGGTCACTCCGACTTACCAACCCGATGCAAACACTGCGAATACCGGAGAATGT
 TATCACGGGAGACACACGGCGGGTGTAAACGTCCCGTGAAGAGGGAAACAC
 CCA
 GACCGCCAGCTAACGGTCCAAAGTCATGGTTAAGTGGGAAACGATGTGGGAGG
 CCCAGACAGCCAGGATGTTGGCTTAGAAGCAGCCATCATTAAAGAAAGCGTAATA
 GCTCACTGGTCGAGTCGGCTGCGCGGAAGATGTAACGGGCTAAACCATGAC
 CGAAGCTCGGGCAGCGACGCTTATGCGTTGGTAGGGAGCGTTCTGTAAG
 CCTCGGAAGGTGTGCTGTGAGGCATGCTGGAGGTATCAGAAGTGCAGAATGCTGA
 CATAAGTAACGATAAAAGCGGGTGAAAAGCCGCTGCCCGGAAGACCAAGGGTCC
 TGTCCAACGTTAACGGGGCAGGGTGAGTCGACCCCTAACGGCGAGGCCGAAAGG
 CGTAGTCGATGGGAAACAGGTTAACATTCTGTACTTGGTTACTGCGAAGGGG
 GGACGGAGAAGGCTATGTTGGCCGGCGACGGTTGTCCCGGTTAACGCGTAG
 GCTGGTTTCCAGGCAAATCCGGAAAATCAAGGCTGAGGCGTGTAGACGAGGCAC
 TACGGTGCTGAAGCAACAAATGCCCTGCTTCCAGGAAAAGCCTTAAGCATCAGG
 TAACATCAAATCGTACCCCCAACCGACACAGGTGGTCAGGTAGAGAATACCAAGG
 CGCTTGAGAGAACTCGGGTGAGGAACCTAGGCAAATGGTGCCGTAACCTCGGG
 GAAGGCACGCTGATATGTAGGTGAGGTCCCTCGCGGATGGAGCTGAAATCAGTC
 GAAGATAACGACTGGCTGCAACTGTTAACACAGCACTGTGCAAACACGA
 AAGTGGACGTATACGGTGTGACGCCCTGCCGGTCCGGAAAGGTTAACGGCGGCC
 GTTAGCGCAAGCGAAGCTTGTGATCGAAGCCCCGGTAAACGGCGGCCGTAACTAT
 AACGGTCTAACGGTAGCGAAATTCTTGTCCGGTAAGTCCGACCTGCACGAATG
 GCGTAA
 TGATGGCCAGGCTGTCTCACCCGAGACTCAGTGAATTGAACTCGCTGTGAAGA
 TGCAGTGTACCCCGCGCAAGACGGAAAGACCCCGTGAAACCTTACTATAGCTTGA
 CACTGAACATTGAGCCTTGATGTGAGGTAGGTGGAGGGTTGAAGTGTGGAC
 GCCAGTCTGCATGGAGGCCGACCTTGAAATACCACCCCTTAATGTTGATGTTCTAA
 CGTTGACCCGTAATCCGGGTTGCGGACAGTGTCTGGTGGTAGTTGACTGGGG
 CGGTCTCCTCTAAAGAGTAACGGAGGAGCACGAAGGTTGGCTAACCTGGTCGG
 ACATCAGGAGGTTAGTGCATGGCATAAGCCAGCTTACTGCGAGCGTGAACGGC
 GCGAGCAGGTGCGAAAGCAGGTATAGTGTACCGGTGGTTCTGAATGGAAGGGC
 CATCGCTAACGGATAAAAGGTACTCCGGGATAACAGGCTGATACCGCCCAAGA
 GTTCATATCGACGGCGGTGTTGGCACCTCGATGTCGGCTCATCACATCCTGGGG
 CTGAAGTAGGTCCCAAGGGTATGGCTGTTGCCATTAAAGTGGTACGCGAGCTG
 GGTTAGAACGTCGTGAGACAGTTCGGTCCCTATCTGCCGTGGCGCTGGAGAAC
 TGAGGGGGGCTGCTCTAGTACGAGAGGACCGGAGTGGACGCATCACTGGTGT
 CGGGTTGTGATGCCAATGGCACTGCCGGTAGCTAAATGCGGAAGAGATAAGTGC
 TGAAAGCATCTAACGACGAAACTTGGCCCCGAGATGAGTTCTCCCTGACCCCTTAAG
 GGTCTGAAGGAACGTTGAAGACGACGACGTTGATAGGCCGGGTGTGAAGCGC
 AGCGATGCGTTGAGCTAACCGGTACTAATGAACCGTGAGGCTAACCTACAACG

FIGURE 24 Cont.

CCGAAGCTGTTGGCGGATGAGAGAAGATTCAGCCTGATACAGATTAAATCAGA
 ACGCAGAACGGCTGATAAAACAGAATTGCGCTGGCGCAGTAGCGCGGTGGTCC
 CACCTGACCCCATGCCAAGTCAAGAGTAAACGCCGTAGGCCGATGGTAGTGTG
 GGGTCTCCCCATGCGAGAGTAGGGA
 ACTGCCAGGCATCAAATAAAACGAAAGGCTCAGTCGAAAGACTGGGCCTTCGTT
 TATCTGTTGTTGCGGTGAACGCTCTCCTGAGTAGGACAAATCCGCCGGAGCG
 GATTGAACGTTGCGAAGCAACGGCCCGGAGGGTGGCGGGCAGGACGCCGCC
 ATAAACTGCCAGGCATCAAATTAAAGCAGAAGGCCATCCTGACGGATGGCCTTTG
 CGTTTCTACAAACTCTTCCTGCGTCATATCACAAGCCATCCCCCACAGATACG
 GTAAACTAGCCTCGTTTGATCAGGAAAGCAGCTATGAACCACTCCTAAACC
 CTGGAACACACATTGGCATTGATCATAATGCTCAGCACATTGTATGGCCTTAAGGG
 CCCAACAAATTACTCAATGCGTGGCAGTATGCAACCGCAGAAGGACAACCCGTTCT
 ATTCTGGGTGAAGGAAGTAATGTACTTTCTGGAGGACTATCGCGGCACGGTGA
 TCATCAACCGGATCAAAGGTATCGAAATTATGATGAACCTGATGCGTGGTATT
 CATGTAGGAGCCGGAGAAAACGGCATCGTCTGGTAAAATACACTTGCAGGAAG
 GTATGCCTGGTCTGGAAAATCTGGCATTAAATTCTGGTTGTCGGCTCATCACCT
 ATCCAGAATATTGGTGCTTATGGCGTAGAATTACAGCGAGTTGCGCTTATGTTGA
 TTCTGTTGAACGGCGACAGGCAAGCAAGTGCCTAACTGCCAAAGAGTGCCTG
 TTTGGCTATCGCAGACTTAAACATGAATACCAAGGACCGCTTCGCTATT
 AGCCGTAGGTCTGCGTCTGCCAAAAGAGTGGCAACCTGTACTAACGTATGGTGA
 TTAACTCGTCTGGGATCCACAGGACGGGTGTGGTCGCCATGATGCGTAGTCGAT
 AGTGGCTCCAAGTAGCGAAGCGAGCAGGACTGGCGGCCAAAGC
 GGCGGACAGTGCCTCGAGAACGGTGCAGTAGAAATTGCATCAACGCATATAG
 CGCTAGCAGCACGCCATACTGACTGGCGATGCTGCGGAATGGACGATATCCG
 CAAGAGGCCCGGAGTACCGGCATAACCAAGCCTATGCCCTACAGCATCCAGGGT
 GACGGTGGCGAGGGATGACGATGAGCGCATTGTTAGATTACACCGGTGCCTGA
 CTGCGTTAGCAATTAACTGTGATAAAACTACCGCATTAAAGCTTATCGATGATAAGC
 TGTCAAACATGAGAATTCTGAAGACGAAAGGGCTCGTGATACGCCTATT
 AGGTTAATGTCATGATAATAATGGTTCTAGACGTCAGGTGGCACTTCGGGGA
 AATGTGCGCGGAACCCCTATTGTTATTCTAAATACATTCAAATATGTATCCG
 CTCATGAGACAATAACCCCTGATAAAATGCTTCAATAATATTGAAAAGGAAGAGTATG
 AGTATTCAACATTCCGTGTCGCCCTATTCCCTTTTGCGGCATTGCGCTT
 GTTTGCTACCCAGAAACGCTGGTGAAAGTAAAGATGCTGAAGATCAGTTGG
 GTGCACGAGTGGGTTACATCGAACTGGATCTCAACAGCGGTAAAGATCCTTGAGAG
 TTTCGCCCCGAAGAACGTTTCCAATGATGAGCATTAAAGTTCTGCTATGTG
 GCGCGGTATTATCCCGTGTGACGCCGGCAAGAGCAACTCGGTGCGCATAAC
 ACTATTCTCAGAATGACTGGTTGAGTACTCACCAGTCACAGAAAAGCATCTTACG
 GATGGCATGACAGTAAGAGAATTATGCACTGCTGCCATAACCAGTGAACAC
 TGCGGCCAACTTACTTCTGACAACGATCGGAGGACCGAAGGAGCTAACGCTTT
 TTGCAACACATGGGGGATCATGTAACTCGCCATTGATCGTTGGGAA
 CCGGAGCTGAATGAGCCATACCAAACGACGAGCGTGACACCACGATGCCGTGCA
 GCAATGGCAACAACGTTGCGCAAACATTAAACTGGCGAACTACTTACTCTAGCTC
 CGGGCAACAAATTAAAGACTGGATGGAGGGCGGATAAAAGTTGCAGGACCACTCTG
 CGCTCGGCCCTCCGGCTGGTTATTGCTGATAATCTGGAGGCCGGTGG
 GTGGGTCTCGCGGTATCATTGCACTGGGCCAGATGGTAAGCCCTCCGTAT
 CGTAGTTATCTACACGACGGGAGTCAGGCAACTATGGATGAACGAAATAGACAG

FIGURE 24 Cont.

ATCGCTGAGATAGGTGCCTCACTGATTAAGCATTGGTAACGTCAAGACCAAGTTAC
TCATATATACTTATAGATTGATTAAACCTCATTTAATTAAAGGATCTAGGTGA
AGATCCTTTGATAATCTCATGACCAAAATCCCTAACGTGAGTTTCGTCCTCACTG
AGCGTCAGACCCGTAGAAAAGATCAAAGGATCTCTGAGATCCTTTCTGCG
CGTAATCTGCTGCTGCAAACAAAAACCCACCGCTACCAGCGGTGGTTGTTGC
CGGATCAAGAGCTACCAACTCTTCCGAAGGTAACGGCTTCAGCAGAGCGCA
GATACCAAATACTGTCCTTAGTGTAGCCGTAGTTAGGCCACCACTCAAGAACT
CTGTAGCACCGCCTACATACCTCGCTTGCTAATCCTGTTACCAAGTGGCTGCTGC
CAGTGGCGATAAGTCGTCTTACCGGGTGGACTCAAGACGATAGTTACCGGAT
AAGGCGCAGCGGTGGCTGAACGGGGGTTCGTGCACACAGCCCAGCTTGGGA
GCGAACGACCTACACCGAACTGAGATACCTACAGCGTGAGCTATGAGAAAGCGCC
ACGCTTCCCGAAGGGAGAAAGGCGGACAGGTATCCGTAAGCGGC
AGGGTCGGAACAGGAGAGCGCACCGAGGGAGCTTCAGGGGAAACGCCTGGTAT
CTTATAGTCTGTCGGGTTCGCCACCTCTGACTTGAGCGTCGATTTGTGATG
CTCGTCAGGGGGGCGGAGCCTATGGAAAAACGCCAGCAACGCGGCCCTTACG
GTTCTGGCCTTTGCTGGCTTTCGTCACATGTTCTTCTGCGTTATCCCCTG
ATTCTGTGGATAACCGTATTACCGCCTTGAGTGAGCTGATACCGCTCGCCGCAG
CCGAACGACCGAGCGCAGCGAGTCAGTGAGCGAGGAAGCGGAAGAGCGCCTGAT
GCGGTATTTCTCCTACCGCATCTGCGGTATTCACACCGCATATGGTGCACTC
TCAGTACAATCTGCTCTGATGCCGATAGTTAACCGAGTATACTCCGCTATCGC
TACGTGACTGGGTCACTGGCTGCGCCCCGACACCCGCAACACCCGCTGACGCGC
CCTGACGGGCTTGTCTGCTCCGGCATCCGCTTACAGACAAGCTGTGACCGTCTC
CGGGAGCTGCATGTCAAGAGGTTTACCGTCATCACCGAAACGCGCGAGGCA
GCTGCGGTAAAGCTCATCAGCGTGGTCGTGAAGCGATTACAGATGTCTGCGTGT
TCATCCCGTCCAGCTCGTTGAGTTCTCCAGAACCGTTAATGTCGGCTTGTAT
AAAGCGGGCATGTTAAGGGGGTTTCTGTTGACTGGCTACTGATGCCCTCGT
GTAAGGGGGAAATTCTGTTCATGGGGTAATGATACCGATGAAACGAGAGAGGAT
GCTCACGATACTGGGTACTGATGATGAACATGCCGGTTACTGGAACGTTGTGAG
GGTAAACAACGGCTGCGGTATGGATGCGGCGGGACCAGAGAAAAACTCAGGGT
CAATGCCAGCGCTCGTTAACAGATGTAGGTGTTCCACAGGGTAGCCAGCAGC
ATCCTGCGATGCCCTGGCGAAAGGGGATGTGCTGCAAGGGGATTAAGTTGGTA
ACGCCAGGGTTTCCCAGTCACGACGTTAAAACGACGCCAGTGAATTGAGC
TCGGTACCTGCACTGACGACAGGAAGAG
TTTGTAGAAACGCAAAAGGCCATCCGTCAAGGATGGCTTCTGCTTAATTGATGC
CTGGCAGTTATGGCGGGCGTCTGCCGCCACCCCTCCGGGCCGTTGCTCGCA
ACGTTCAAATCCGCTCCGGCGGATTGCTCTACTCAGGAGAGCGTTACCGACA
ACAACAGATAAACGAAAGGCCAGTCTTCGACTGAGCCTTCGTTTATTG
TGCCTGGCAGTCCCTACTCTCGCATGGGAGACCCACACTACCATGGCGCTA
CGACTAGATTATTGTAGAGCTCATCCATGCCATGTGTAATCCAGCAGCAGTTAC
AAACTCAAGAAGGACCATGTGGTCACGCTTTCGTTGGATCTTCGAAAGGGCA
GATTGTGTCGACAGGTAAAGGTTCTGGTAAAGGACAGGGCCATGCCAATTG
GAGTATTGTTGATAATGGTCTGCTAGTTGAACGGATCCATCTCAATGTTGTGG
CGAATTGAGTTAGCTTGATTCCATTCTTGTCTGCCGTGATGTATACA
TTGTGAGTTAGTTGACTCGAGTTGTGTCGAGAATGTTCCATCTTCTTAA
AAATCAATACCTTAACTCGATACGATTAACAAGGGTACACCTCAAACCTGACT
TCAGCACCGCTTGTAGTTCCCGCATCTTGAAAGATATAGTCGGCTTCTGTAC

FIGURE 24 Cont.

ATAACCTCGGGCATGGCACTCTGAAAAAGTCATGCCGTTCATATGATCCGGATA
ACGGGAAAAGCATTGAACACCCATAAGAGAAGTAGTGACAAGTGTGGCCATGGA
ACAGGTAGTTTCCAGTAGTGCAAATAATTAAAGGGTAAGCTTCCGTATGTAGC
ATCACCTCACCCCTCCACTGACAGAAAATTGTGCCCATTAACATCACCATCTAA
TTCAACAAGAATTGGGACAACCTCCAGTAAAAAGTTCTTCT
CCTTGCTCGCAGTGATTTTTCTCCATTGCGGAGGGATATGAAAGCGGCCGCT
TCCACACATTAAACTAGTTCGATGATTAATTGTCAACAGCTCGCCGGCGCACCTC
GCTAACGGATTCAACACTCCAAGAATTGGAGCCAATCGATTCTGCGGAGAACTGT
GAATGCGGGTACCCAGATCCGGAACATAATGGTGCAAGGGCGCTGACTTCCCGCTT
TCCAGACTTTACGAAACACGGAAACCGAAGACCATTCACTGTTGCTCAGGTGCG
AGACGTTTGCAGCAGCTCGCTCACGTTGCTCGTATCGGTGATTCAATTCT
GCTAACCAAGTAAGGCAACCCCGCCAGCCTAGCCGGGTCTCAACGACAGGAGCA
CGATCATGCGCACCCGTGGCCAGGACCCAACGCTGCCGAGATGCGCCGCGTGC
GGCTGCTGGAGATGGCGGACGCGATGGATATGTTCTGCCAAGGGTTGGTTGCG
CATTACAGTTCTCGCAAGAATCGATTGGCTCAATTCTGGAGTGGTGAATCCG
TTAGCGAGGTGCCGCCGGCAGCTGTTGACAATTATCATCGAACTAGTTAATGT
GTGGAAGCGGCCGCTTCATATCCCTCCGCAAATGGAGAAAAAAATCACTGGATAT
ACCACCGTTGATATATCCCAATGGCATCGTAAAGAACATTGAGGCATTCAGTC
AGTTGCTCAATGTACCTATAACCAGACCGTTAGCTGGATATTACGGCCTTTAA
AGACCGTAAAGAAAAATAAGCACAAGTTTATCCGGCCTTATTACACATTCTGCC
GCCTGATGAATGCTCATCCGAATTCGTATGGCAATGAAAGACGGTGAGCTGGT
GATATGGGATAGTGTTCACCCCTGTTACACCGTTTCCATGAGCAAACGTAAACGT
TTTCATCGCTCTGGAGTGAATACCACGACGATTCCGGCAGTTTC
TACACATATATTGCAAGATGTGGCGTGTACGGTAAAAACCTGGCCTATTCCT
AAAGGGTTTATTGAGAATATGTTTCTCGTCTCAGCCAATCCCTGGGTGAGTTCA
CAGTTTGATTTAACGTGCCAATATGGACAACCTCTCGCCGGGGCTTACCA
TGGGCAAATATTACGCAAGGCAGAAGGTGCTGATGCCGCTGGCGATTCA
TCATCATGCCGTCTGTGATGGCTTCCATGTCGGCAGAATGCTTAATGAATTACA
AGTACTGCGATGAGTGGCAGGGCGGGCGTAATTAAAGGCAGTTATTGGT
CCCTTAAACGCCCTGGTGTACGCCCTGAATAAGTGATAATAAGCGGATGAATGG
GAAATTGAAAGCAAATTGACCCGGTCGCGGTTAGGGCAGGGTCGTTAAATA
GCCGCTTATGCTATTGCTGGTTACGGTTATTGACTACCCGAAGCAGTGTGACC
CTGTGCTCTCAAATGCCGAGGGCAGTTGCTCAGGTCTCCGTGGGGGGAAAT
AATTAAACGGTATGAGCCTACGGCGGACGGATCGTGGCCGCAAGTGGGTCCGG
TAGAGGATCCGACACCATCGAATGGTGCAAAACCTTCGCGGTATGGCATGATAG
CGCCCGGAAGAGAGTCATTAGGGTGGTAATGTGAAACACAGTAACGTTACG
ATGTCGAGAGTATGCCGGTGTCTTATCAGACCGTTCCCGCTGGTGAACCA
GCCAGCCACGTTCTCGAAGAACCGGGAAAAAGTGGAAAGCGGCGATGGCG
GCTGAATTACATTCCCAACCGCGTGGCACAACAACTGGCGGGCAAACAGTC
CTGATTGGCGTTGCCACCTCCAGTCTGGCCCTGCACGCGCCGTCGCAAATTG
CGCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGGTGTG
GGTAGAACGAAGCGCGTCGAAGCCTGTAAGCGCGGTGCACAATCTCTCG
GCAACGGGTCACTGGGCTGATCATTAACTATCCGCTGGATGACCAGGATGCC
GCTGTGGAAGCTGCCTGCACTAATGTTCCGGCGTTATTCTTGATGTCTCTG
GACACCCATCAACAGTATTATTTCTCCATGAAGACGGTACCGCACTGGCG
GAGCATCTGGTCGCATTGGGTACCCAGCAAATCGCGCTGTTAGCGGGCCC
ATTAA

FIGURE 24 Cont.

GTTCTGTCTCGCGCGTCTCGTCTGGCTGGCTGGCATAAATATCTCACTCGCAATC
AAATTCAAGCGATAGCGGAACGGGAAGGCGACTGGAGTGCATGTCGGGTTTCA
ACAAACCATGCAAATGCTGAATGAGGGCATCGTCCCCTGCGATGCTGGTTGCC
AACGATCAGATGGCGCTGGCGCAATGCGGCCATTACCGAGTCCGGCTGCGC
GTTGGTGGGATATCTGGTAGTGGATACGACGATACCGAAGACAGCTCATGTT
ATATCCCCTCGTCAACCACCATCAAACAGGATTTCGCCTGCTGGGCAAACAG
CGcGGACCGCTGCTGCAACTCTCAGGCCAGGCGGTGAAGGGCAATCAGCT
GTTGCCGTCTCACTGGTAAAAGAAAAACCCCTGGCGCCAAATACGCAAAC
GCCTCTCCCCGCGTGGCCGATTCAATTATGCAGCTGGCACGACAGGTTCCC
GAAGTGGAAAGCGGGCAGTGAGCGCAACGCAATTATGTGAGTTAGCTCACTCATT
AGGCACCCCCAGGCTTACACTTATGCTTCCGGCTCGTATAATGTGTGGAATTGTG
AGCGGATAACAATTTCACACAGCGGCCGCTGAGAAAAAGCGAAGCGGCACTGCTC
TTAACAAATTATCAGACAATCTGTGTGGGACTCGAAGATAACGGATTCTAACGT
CGCAAGACGAAAATGAATACCAAGTCTCAAGAGTGAACACGTAATTCAATTACGAA
GTTAACATTGAGCGTCAAACCTTAAACGACGGCCAGTGAATTGAGCTCGGTA
CCTGCACTGACGACAGGAAGAG

FIGURE 24 Cont.

App No.: Not Yet Assigned

Inventor: Phillip R. Cunningham

Docket No.: WSV-2597

Title: METHODS AND COMPOSITIONS FOR THE
IDENTIFICATION OF ANTIBIOTICS THAT ARE NOT
SUSCEPTIBLE TO ANTIBIOTIC RESISTANCE

AAATTGAAGAGTTGATCATGGCTCAGATTGAACGCTGGCGGCAGGCCTAACACA
TGCAAGTCGAACGGTAACAGGAAGAAGCTTGTCTTGTGACGAGTGGCGGAC
GGGTGAGTAATGTCGGAAACTGCCTGATGGAGGGGATAACTACTGGAAACG
GTAGCTAATACCGCATAACGTCGCAAGACCAAAGAGGGGGACCTCGGGCTCTT
GCCATCGGATGTGCCAGATGGGATTAGCTAGTAGGTGGGTAACGGCTCACCTA
GGCGACCGATCCCTAGCTGGTCTGAGAGGATGACCAGCCACACTGGAACGTGAGAC
ACGGTCCAGACTCCTACGGGAGGCAGCAGTGGGAATATTGACAAATGGCGCA
AGCCTGATGCAGCCATGCCCGTGTATGAAGAAGGCCTCGGGTTGTAAGTACT
TTCAGCGGGGAGGAAGGGAGTAAAGTTAACCTTGCTATTGACGTTACCCGC
AGAAGAAGCACCAGCTAACCTCGTGCCAGCAGCCCGGTAATACGGAGGGTGCA
AGCGTTAACCGGAAATTACTGGCGTAAAGCGCACGCAGGCGGTTGTTAAGTCAG
ATGTGAAATCCCCGGGCTAACCTGGGAACTGCATCTGATACTGGCAAGCTTGAG
TCTCGTAGAGGGGGTAGAATTCCAGGTGAGCGGTGAAATGCGTAGAGAGATCTGG
AGGAATACCGGTGGCGAAGGCGGCCCCCTGGACGAAGACTGACGCTCAGGTGCG
AAAGCGTGGGGAGCAACAGGATTAGATAACCTGGTAGTCCACGCCGTAAACGAT
GTCGACTTGGAGGTTGTGCCCTTGAGGCCTGGCTTCCGGAGCTAACCGTTAAGT
CGACCGCCTGGGGAGTACGGCCGCAAGGTTAAACTCAAATGAATTGACGGGGG
CCCGCACAAGCGCGGAGCATGTGGATTATCGATGCAACGCGAAGAACCTAC
CTGGGTTGACATGCACAGGACGGCTAGAGATAAGCGTCCCTGTGGCCCTGT
GTGCAGGTGGTGCATGGCTGTCGTCAAGCTCGTGTGAGATGTTGGGTTAAGTC
CCGCAACGAGCGCAACCCCTGTCTCATGTTGCCAGCACGTAATGGTGGGGACTCG
TGAGAGACTGCCGGGGTCAACTCGGAGGAAGGTGGGATGACGTCAAGTCATCA
TGCCCCTATGTCAGGGCTTACACATGCTACAATGGCCGGTACAAAGGGCTGC
GATGCCCGAGGTTAACGCAATCCTAAAGCCGGTCTCAGTTGGATCGGGGTC
TGCAACTCGACCCCGTGAAGTCGGAGTCGCTAGTAATCGCAGATCAGCAACGCTG
CGGTGAATACGTTCCGGGCTTGTACACACCGCCGTACGTATGAAAGTCGG
TAACACCGAAGCCAGTGGCTAACCTCGGAGGGAGCTGCGAAGGTGGGAT
CGCGATTGGGACGAAGCTGTAACAAGGTAAACCGTAGGGGAAACCTGCGGTTGGA
TCATGGGATTACCTAAAGAACGCTACTTGAGTGCTCACACAGATTGCTGTATA
GAAAGTAAAAGCAAGGCAGTGGCTTACCGCTGGAGTGAGCTGAAGAGAATAAGG
CCGTTGCTTCTATTAAATGAAAGCTCACCTACACGAAATATCACGCAACGCGT
GATAAGCAATTCGTGTCCTCGTCTAGAGGCCAGGACACGCCCTTAC
GGCGGTAAACAGGGGTTCGAATCCCTAGGGGACGCCACTTGTGGTTGTGAGT
GAAAGTCGCCGACCTTAATATCTCAAAACTCATCTTGGGTGATGTTGAGATTTT
GCTTTAAAATCTGGATCAAGCTGAAAATTGAAACACTGAACACGAGAGTTGT
TCGTGAGTCTCTCAAATTCGCAACACGATGATGAAATGAAAGAACATCTCGG
GTTGTGAGGTTAACGCAACTAACGCTACACGGTGGATGCCCTGGCAGTCAGAGGC
GATGAAGGACGTGCTAATCTCGATAAGCGTGGATGCCCTGGCAGTCAGAGGC
AACCGCGATTCCGAATGGGAAACCCAGTGTGTTGACACACTATCATTAAC
GAATCCATAGGTTATGAGGCGAACCGGGGAACTGAAACATCTAAGTACCCGA
GGAAAAGAAATCAACCGAGATCCCCCAGTAGCGGGGAGCGAACGGGGAGCGAC
CCAGAGCCTGAATCAGTGTGTTAGTGGAAAGCGTCTGGAAAGGGCGCGATA
CAGGGTGACAGCCCCGTACACAAAAATGCACATGCTGTGAGCTGATGAGTAGGG
CGGGACACGTGGTATCCTGTCTGAATATGGGGGACCATCCTCCAAGGCTAAATA
CTCCTGACTGACCGATAGTGAACCAAGTACCGTGAGGGAAAGGCAGAACCCCC
GGCGAGGGGAGTGAAAAGAACCTGAAACCGTGTACGTACAAGCAGTGGGAGCA

FIGURE 25

App No.: Not Yet Assigned

Inventor: Phillip R. Cunningham

Title: METHODS AND COMPOSITIONS FOR THE
IDENTIFICATION OF ANTIBIOTICS THAT ARE NOT
SUSCEPTIBLE TO ANTIBIOTIC RESISTANCE

Docket No.: WSV-2597

CGCTTAGCGTGTGACTGCGTACCTTTGATAATGGGTAGCGACTTATATTCTG
TAGCAAGGTTAACCGAATAGGGGAGCCGAAGGGAAACCGAGTCTTAACGGCGT
TAAGTTGCAGGGTATAGACCCGAAACCGGGTATCTAGCCATGGCAGGGTGAAG
GTTGGGTAACACTAAGTGGAGGACCGAACCAGACTAATGTTGAAAATTAGCGGAT
GACTTGTGGCTGGGGTGAAGGCCAATCAAACCGGGAGATAGCTGGTCTCCC
CGAAAGCTATTAGGTAGCGCCTCGTAATTCTCCGGGGTAGAGCACTGTT
TCGGCAAGGGGTACCCGACTTACCAACCCGATGCAAACGACTGCAATACCGGAG
AATGTTATCACGGGAGACACACGGGGTCTAACGTCGCTGAAAGAGGGAA
ACAACCCAGACGCCAGCTAAGGTCCTAAAGTCATGGTTAAGTGGAAACGATGT
GGGAAGGCCAGACAGCCAGGATGTTGGCTTAGAAGCAGCCATCATTAAAGAAA
GCGTAATAGCTACTGGTCAGTCGGCCTCGCGGAAGATGTAACGGGCTAAA
CCATGCACCGAAGCTGCGCAGCGACGCTTATGCGTTGGTAGGGAGCGT
TCTGTAAGCCTGCGAAGGTGTGCTGAGGCATGCTGGAGGTATCAGAAGTGC
ATGCTGACATAAGTAACGATAAAAGGGTAAAAGCCGCTCGCCGGAAGACCAA
GGGTTCTGTCCAACGTTAATCGGGCAGGGTAGTCGACCCCTAACGGCGAGGC
CGAAAGGCCTAGTCGATGGAAACAGGTTAATATTCTGTACTGGTTACTGC
GAAGGGGGGACGGAGAAGGCTATGTTGGCCGGCGACGGTTGTCGGGTTAAG
CGTGTAGGCTGGTTCCAGGCAAATCCGAAAATCAAGGCTGAGGCGTGTGAC
GAGGCACTACGGTGCTGAAGCAACAAATGCCCTGCTTCAGGAAAAGCCTCTAAG
CATCAGGTAACATCAAATCGTACCCAAACCGACACAGGTGGTCAGGTAGAGAAT
ACCAAGGCGCTTGAGAGAACTCGGGTGAAGGAACTAGGCAAAATGGTGCCGTAAC
TTCGGGAGAAGGCACGCTGATATGTAGGTGAGGTCCCTCGCGATGGAGCTGAA
ATCAGTCGAAGATAACAGCTGGCTGCACTGTTATTAAAAACACAGCACTGTGCA
AACACGAAAGTGGACGTATACGGTGTGACGCCCTGCCCGGTGCCGGAAGGTTAATT
GATGGGTTAGCGCAAGCGAAGCTCTGATCGAAGCCCCGGTAAACGGCGGCCG
TAACATAACGGTCTAACGGTAGCGAAATTCCCTGCGGTAAGTCCGACCTGCA
CGAATGGCGTAATGATGGCCAGGCTGCTCCACCCGAGACTCAGTGAATTGAAAC
TCGCTGTAAGATGCACTGTACCCGCGGCAAGACGGAAAGACCCGTTGAAACCTTT
ACTATAGCTGACACTGAACATTGAGCCTGATGTGAGGATAGGTGGAGGCTT
GAAGTGTGGACGCCAGTCTGCATGGAGCCGACCTGAAATACCACCTTAATGT
TTGATGTTAACGTTGACCGTAATCCGGGTTGCGGACAGTGTCTGGTGGTAG
TTGACTGGGGGGCTCCTCTAACAGAGTAACGGAGGAGCACGAAAGGTTGGCTA
ATCCTGGTCGGACATCAGGAGGTTAGTGCAATGGCATAAGCCAGCTGACTGCGA
GCGTACGGCGCGAGCAGGTGCGAAAGCAGGTATAGTGATCCGGTGGTCTGA
ATGGAAGGGCCATCGCTAACGGATAAAAGGTACTCCGGGATAACAGGCTGATA
CCGCCAACAGAGTTCATATCGACGGCGGTGTTGGCACCTCGATGCGCTCATCA
CATCCTGGGCTGAAGTAGGTCCAAGGGTATGGCTGTTGCCATTAAAGTGGT
ACGCGAGCTGGTTAGAACGTCGTGAGACAGTCGGTCCCTATCTGCCGTGGC
GCTGGAGAACTGAGGGGGCTGCTCTAGTACGAGAGGACCGGAGTGGACGCAT
CACTGGTGTGCGGTTGTCATGCCAATGGCACTGCCGGTAGCTAAATGCGGAAG
AGATAAGTGTGAAAGCATCTAACGACGAAACTTGGCCCCGAGATGAGTTCTCCCT
GACCTTAAGGGCTCTGAAGGAACGTTGAGACGACGACGTTGATAGGCCGGT
GTGTAAGCGCAGCGATGCGTTGAGCTAACCGGTTACTAATGAACCGTGAGGCTTAA
CCTTACAACGCCGAAGCTGTTGGCGGATGAGAGAAGATTTCAGGCTGATAACA
GATTAATCAGAACGCAAGCGAGACGGCTGTGATAAAACAGAATTGCGCTGGCGGAGT
AGCGCGGTGGTCCCACCTGACCCCATGCCGAACTCAGAAGTGAAACGCCGTAGC

FIGURE 25 Cont.

App No.: Not Yet Assigned

Docket No.: WSV-2597

Inventor: Phillip R. Cunningham

Title: METHODS AND COMPOSITIONS FOR THE
IDENTIFICATION OF ANTIBIOTICS THAT ARE NOT
SUSCEPTIBLE TO ANTIBIOTIC RESISTANCE

CCCGATGGTAGTGTGGGTCTCCCCATGCGAGAGTAGGAACTGCCAGGCATCA
AATAAAACGAAAGGCTCAGTCGAAAGACTGGGCCTTCGTTTATCTGTTGTTGT
CGGTGAACGCTCCTGAGTAGGACAAATCCGCCGGAGCGGATTGAACGTTGC
GAAGCAACGGCCGGAGGGTGGCGGGCAGGACGCCATAAACTGCCAGGC
ATCAAATTAAGCAGAAGGCCATCCTGACGGATGGCCTTTGCCTTACAAACT
CTTCCTGTCGTATCTACAAGCCATCCCCACAGATACTGGTAAACTAGCCTCG
TTTGCACTCAGGAAAGCAGCTATGAACCCTCCTAAACCTGGAACACATTG
GCATTGATCATAATGCTCAGCACATTGTATGGCCTTAAGGGCCAAACAATTACTC
AATGCCTGGCAGTATGCAACCGCAGAAGGACAACCCGTTCTATTCTGGGTGAAG
GAAGTAATGTACTTTCTGGAGGACTATCGCGCACGGTATCATCAACCGGAT
CAAAGGTATCGAAATTATGATGAACCTGATGCGTGGTATTACATGTAGGAGCCG
GAGAAAATGGCATCGTCTGGTAAAATACACTTGCAAGGAAGGTATGCCCTGGTCT
GGAAAATCTGGCATTAACTCCTGGTTGTGCGCTCATCACCTATCCAGAATATTG
GTGCTTATGGCGTAGAATTACAGCGAGTTGCGCTTATGTTGATTCTGTTGAACGT
GCGACAGGCAAGCAAGTGCCTTAACGCAAAAGAGTGCCGTTTGCTATCGCG
ACAGTATTTAAACATGAATACCAAGGACCGCTCGCTATTGTAAGCCTAGGTC
CGTCTGCCAAAAGAGTGGCAACCTGTAACGTATGGTACTTAACGCTGG
GATCCACAGGACGGGTGTGGCGGCATGATCGCTAGTCGATAGTGGCTCCAAGT
AGCGAACGCGAGCAGGACTGGCGGCAAAGCGGTGCGACAGTGCTCCGAG
AACGGGTGCGCATAGAAATTGCATCAACGCATATAGCGCTAGCAGCACGCCATAG
TGAUTGGCGATGCTGCGAATGGACGATATCCCGCAAGAGGCCGGCAGTACCG
GGCATAACCAAGCCTATGCCCTACAGCATCCAGGGTACGGTGCCGAGGATGACG
ATGAGCGCATTGTTAGATTACACGGTGCCTGACTGCGTTAGCAATTAACTG
TGATAAACTACCGCATTAAAGCTTATCGATGATAAGCTGTCAAACATGAGAATTCTT
GAAGACGAAAGGGCCTCGTGATACGCTTATTTATAGGTTAATGTATGATAATA
ATGGTTTCTTAGACGTAGGTGGCACTTTGGGGAAATGTGCGCGGAACCCCTA
TTGTTTATTTCTAAATACATTCAAATATGTTACCGCTCATGAGACAATACCCCTG
ATAAAATGCTCAATAATATTGAAAAAGGAAGAGTATGAGTATTCAACATTCCGCT
CGCCCTTATCCCTTTTGCGGCATTTGCCCTCCTGTTTGCTCACCCAGAAAC
GCTGGTAAAGTAAAGATGCTGAAGATCAGTTGGTGACGAGTGGTTACATC
GAACCTGGATCTCAACAGCGGTAAAGATCCTGAGAGTTTGCCCCGAAGAACGTT
TTCCAATGATGAGCACTTTAAAGTTCTGCTATGTGGCGCGTATTATCCGTT
GACGCCGGCAAGAGCAACTCGGTCGCCATACACTATTCTCAGAATGACTTGG
TTGAGTACTCACCAGTCACAGAAAAGCATCTACGGATGGCATGACAGTAAGAGAA
TTATGCACTGCTGCCATAACCATGAGTGATAACACTGCGGCCACTTACTCTGAC
AACGATCGGAGGACCGAAGGAGCTAACCGCTTTTGCAACACATGGGGATCAT
GTAACCTGCCCTGATCGTGGGAACCGGAGCTGAATGAAGCCATACCAACGACG
AGCGTACACCGATGCCATGCGCAGCAATGGCAACACGTTGCGCAAACATTAAAC
TGGCGAACTACTTACTCTAGCTTCCCGCAACAATTAAAGACTGGATGGAGGCG
GATAAAGTTGAGGACCACTTCTGCGCTCGGCCCTCCGGCTGGTTATTG
CTGATAAATCTGGAGCCGGTGAGCGTGGGTCTCGCGGTATATTGCACTGG
GCCAGATGGTAAGCCCTCCGTATCGTAGTTATCTACACGACGGGAGTCAGGCA
ACTATGGATGAACGAAATAGACAGATCGCTGAGATAGGTGCCTCACTGATTAAGCA
TTGGTAACTGTCAGACCAAGTTACTCATATATACTTTAGATTGATTAAAACCTCAT
TTTAATTAAAAGGATCTAGGTGAAGATCCTTTGATAATCTCATGACCAAAATC
CCTAACGTGAGTTTCGTTCCACTGAGCGTCAGACCCGTAGAAAAGATCAAAGG

FIGURE 25 Cont.

ATCTTCTTGAGATCCTTTCTGCGCGTAATCTGCTGCTTGCAAACAAAAAAACC
ACCGCTACCAGCGGTGGTTGTTGCCGGATCAAGAGCTACCAACTCTTCCGA
AGGTAACTGGCTTCAGCAGAGCGCAGATAACCAATACTGTCCTTAGTGTAGCC
GTAGTTAGGCCACCACTCAAGAACTCTGCTAGCACCGCTACATACCTCGCTCTGC
TAATCCTGTTACCACTGGCTGCCAGTGGCGATAAGTCGTGTCTTACCGGGTT
GGAACAGACGATAGTTACCGGATAAGGCGCAGCGGTGGCTGAACGGGGGG
TTCGTGACACAGCCCAGCTGGAGCGAACGACCTACACCGAACTGAGATAACCTA
CAGCGTGAGCTATGAGAAAGCGCCACGCTCCCGAAGGGAGAAAGGCGGACAGG
TATCCGGTAAGCGGCAGGGTCGAAACAGGAGAGCGCACGAGGGAGCTTCCAGG
GGGAAACGCCTGGTATCTTATAGTCCTGCGGCTTTCGCCACCTGACTTGAG
CGTCGATTTGTGATGCTCGTCAGGGGGCGGAGCCTATGGAAAAACGCCAGCA
ACGCCGCTTTTACGGTTCCCTGGCCTTTGCTGGCCTTGCTCACATGTTCTT
CCTGCCTTATCCCCTGATTCTGTGGATAACCGTATTACCGCCTTGAGTGAGCTGA
TACCGCTCGCCGAGCCGAACGACCGAGCGCAGCGAGTCAGTGAGCGAGGAAGC
GGAAGAGCGCCTGATGCGGTATTTCTCCTACGCATCTGTGCGGTATTCACACC
GCATATGGTGCACTCTCAGTACAATCTGCTCTGATGCCGATAGTTAAGCCAGTAT
ACACTCCGCTATCGCTACGTACTGGTCACTGGCTGCGCCCCGACACCCGCCAAC
ACCCGCTGACGCCCTGACGGGCTGCTGCTCCGGCATCCGCTTACAGACAA
GCTGTGACCGTCTCCGGAGCTGCGGTAAAGCTCATCAGCGTGGCTGTGAAGCGATTAC
AACGCGCGAGGCAGCTGCGTCAAGCTCATCAGCGTGGCTGTGAAGCGATTAC
AGATGTCTGCCTGTTATCCCGCTCCAGCTCGTTGAGTTCTCCAGAAGCGTTAAT
GTCTGGCTTCTGATAAAAGCGGGCATGTTAAGGGCGTTTCTGTTGGTCAC
TTGATGCCTCCGTGAAGGGGAATTCTGTTATGGGGTAATGATACCGATGA
AACGAGAGAGGATGCTACGATAACGGGTTACTGATGATGAACATGCCGGTTACT
GGAACGTTGTGAGGGTAACAAACTGGCGGTATGGATGCGGGGGACAGAGAAA
AATCACTCAGGGTCAATGCCAGCGCTCGTTAATACAGATGTAGGTGTTCCACAG
GGTAGCCAGCAGCATCCTGCATGCCGGAAAGGGGATGTGCTGCAAGGCG
ATTAAGTGGGTAACGCCAGGGTTTCCAGTCAGCACGTTGAAACAGACGGCC
AGTGAATTGAGCTCGGTACCTGCACTGACGACAGGAAGAGTTGTAGAAACGCA
AAAAGGCCATCCGTCAAGGATGGCCTCTGCTTAATTGATGCCTGGCAGTTATGG
CGGGCGTCTGCCGCCACCCCTCCGGGCGTTGCTCGCAACGTTCAAATCCGC
TCCCGGCGGATTGTCTACTCAGGAGAGCGTTACCGACAAACAACAGATAAAA
CGAAAGGCCAGTCTTCGACTGAGCCTTCGTTTATTGATGCCTGGCAGTTCC
CTACTCTCGCATGGGAGACCCCACACTACCATCGCGCTACGACTAGATTATT
GTAGAGCTCATCCATGCCATGTGTAATCCCAGCAGCAGTTACAAACTCAAGAAGGA
CCATGTGGTCACGCTTTCGTTGGATCTTCGAAAGGGCAGATTGTGTCGACAG
GTAATGGTTGTCTGGTAAAGGACAGGGCATGCCAATTGGAGTATTGTTGAT
AATGGTCTGCTAGTTGAACGGATCCATCTCAATGTTGTCGAGTTAAGTTGAAGTTA
GCTTGATTCCATTCTTGTCTGCCGTGATGTATACATTGTTGAGTTAG
TTGACTCGAGTTGTGTCGAGAATGTTCCATCTCTTAAATCAATACCTTTT
AACTCGATACGATTAACAAGGGTACACCTCAAACCTGACTTCAGCACCGCTT
GTAGTCCCGTCATCTTGAAAGATATAGTCGCTCCTGTACATAACCTCGGGCA
TGGCACTCTGAAAAGTCATGCCGTTCATATGATCCGGATAACGGGAAAAGCAT
TGAACACCATAAGAGAAAGTAGTGACAAGTGTGGCCATGGAACAGGTAGTTTCC
AGTAGTGCAAATAAATTAAAGGGTAAGCTTCCGTATGTAGCATCACCTCACCC
CTCCACTGACAGAAAATTGTGCCATTAAACATCACCCTAATTCAACAAGAATTG

FIGURE 25 Cont.

GGACAACCTCCAGTGAAAAGTTCTTCTCCTTGCTCGCAGTGA
GCGGAGGGATATGAAAGCGGCCGCTTCCACACATTAAACTAGTCGATGATTAATT
GTCAACAGCTGCCGGCAGCCTCGCTAACGGATTCAACACTCCAAGAATTGGA
GCCAATCGATTCTGCGGAGAAGTGAATGCGGGTACCCAGATCCGGAACATAA
TGGTGCAGGGCGCTGACTTCCGCTTCCAGACTTACGAAACACGGAAACCGAA
GACCATTATGTTGCTCAGGTGCGAGACGTTGCGAGCAGCAGTCGCTTCAC
GTTCGCTCGCGTATCGGTGATTCTGCTAACAGTAAGGCAACCCCGCCAGC
CTAGCCGGGTCTCAACGACAGGAGCACGATCATGCGCACCCGTGGCCAGGACC
CAACGCTGCCGAGATGCGCCGCGTGGCTGCTGGAGATGGCGACGCGATG
GATATGTTCTGCCAAGGGTTGGTTGCGCATTACAGTTCTCGCAAGAATCGATT
GGCTCCAATTCTGGAGTGGTGAATCCGTTAGCGAGGTGCCGCCGGCAGCTGTT
GACAATTAATCATCGAACTAGTTAATGTTGGAAGCGGCCCTTCATATCCCTC
CGCAAATGGAGAAAAAAATCACTGGATATACCACCGTTGATATATCCCAATGGCAT
CGTAAAGAACATTGAGGCATTCACTGAGTACCTATAACCAGAC
CGTTCACTGGATATTACGGCTTTAAAGACCGTAAAGAAAAATAAGCACAAGT
TTTATCCGGCTTATTACACATTCTGCCGCTGATGAATGCTCATCCGGAAATT
CGTATGGCAATGAAAGACGGTGAGCTGGTGAATGGGATAGTGTTCACCCCTGTT
ACACCGTTTCCATGAGCAAACGAAACGTTTACACATATTCGCAAGATGTGGCGTGTACGGTGA
AACACCTGGCTATTCCCTAAAGGGTTATTGAGAATATGTTTCTCAGCCAA
TCCCTGGGTGAGTTACCCAGTTTGAATTAAACGTGGCAATATGGACAACCTCT
TCGCCCCCGTTTACCATGGGCAAATTACGCAAGGCGACAAGGTGCTGAT
GCCGCTGGCGATTCAAGGTTCATCATGCCGCTGTGATGGCTTCCATGCGGAGA
ATGCTTAATGAATTACAACAGTACTGCGATGAGTGGCAGGGCGGGCGTAATT
TTAAGGCAGTTATTGGTCCCCTAAACGCCCTGGTGTACGCCCTGAATAAGTGA
TAAGCGGATGAATGGCAGAAATTGCAAAGCAAATTGACCCGGTGTGGTT
GGCAGGGTCGTTAAATAGCCGCTATGCTATTGCTGGTTACGGTTATTGACTA
CCCGAAGCAGTGTGACCCCTGTGCTCTCAAATGCCGAGGGCAGTTGCTCAGGT
CTCCCGTGGGGGGGAAATAATTACGGTATGAGCCTTACGGCGGACGGATCGTGG
CCGCAAGTGGTCCGGCTAGAGGATCCGACACCATCGAATGGTGC
AACCGTAAACGTTACGATGTCGAGAGTATGCCGTGTCTTATCAGACCGTT
TCCCACGTTGGTGAACCAGGCCAGCCACGTTCTCGGAAACCGGGAAAAAGTG
GAAGCGGCATGGCGAGCTGAATTACATTCCCAACCGCGTGGCACAACAACTG
GCGGGCAAACAGTCGTTGCTGATTGGCGTGCACCTCCAGTCTGGCCCTGCAC
GCGCCGTCGCAAATTGTCGCGGCGATTAAATCTCGCGCCGATCAACTGGGTGCCA
GCGTGGTGGTGTGATGGTAGAACGAGGGCGTGAAGCCTGTAAGCGGGGG
TGCACAATCTCTCGCGCAACGGGTGAGTGGCTGATCATTAAACTATCCGCTGGA
TGACCAGGATGCCATTGCTGTGGAAGCTGCCCTGCACTAATGTTCCGGCTTATT
CTTGATGTCTCTGACCAAGACACCCATCAACAGTATTATTTCTCCATGAAGACGG
TACGCGACTGGCGTGGAGCATCTGGTGCATTGGTCACCAGCAAATCGCGCT
GTTAGCGGGCCCATTAAAGTTCTGCTCGCGCGTCTCGTCTGGCTGGCTGGCAT
AAATATCTCACTCGCAATCAAATTAGCCGATAGCGGAACGGGAAGGGCACTGGA
GTGCCATGTCCGGTTTCAACAAACCATGCAAATGCTGAATGAGGGCATCGTCCC
ACTGCGATGCTGGTGCCAACGATCAGATGGCGCTGGCGCAATGCGCGCCATT
ACCGAGTCCGGGCTGCGCGTTGGTGCAGGATATCTCGGTAGTGGGATACGACGAT

FIGURE 25 Cont.

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Title: METHODS AND COMPOSITIONS FOR THE
IDENTIFICATION OF ANTIBIOTICS THAT ARE NOT
SUSCEPTIBLE TO ANTIBIOTIC RESISTANCE

ACCGAAGACAGCTCATGTTATATCCGCCGTCAACCACCATCAAACAGGGATTTCG
CCTGCTGGGGCAAACCAGCGcGGACCGCTTGCTGCAACTCTCTCAGGGCCAGGC
GGTGAAGGGCAATCAGCTGTTGCCGTCACTGGTAAAAAGAAAAACCACCTG
GCGCCCAATACGCAAACCGCCTCTCCCCGCGCTGGCCGATTCAATTAGCAGC
TGGCACCGACAGGTTCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAAAT
GTGAGTTAGCTCACTCATTAGGCACCCCAGGCTTACACTTTATGCTTCCGGCTCG
TATAATGTGTGGAATTGTGAGCGGATAACAATTACACAGCGGCCGCTGAGAAAAA
AGCGAAGCGGCAGTCTTTAACATTACAGACAATCTGTGTGGGCACTCGAA
GATACGGATTCTAACGTCGCAAGACGAAAAATGAATACCAAGTCTCAAGAGTGAA
CACGTAATTACGAGTTAATTCTTGAGCGTCAAACCTTT

FIGURE 25 Cont.

AAATTGAAGAGTTGATCATGGCTCAGATTGAACGCTGGCGGCAGGCCTAACACA
TGCAAGTCGAACGGTAACAGGAAGAAGCTGCTTCTTGCTGACGAGTGGCGGAC
GGGTGAGTAATGTCTGGGAAACTGCCTGATGGAGGGGGATAACTACTGGAAACG
GTAGCTAATACCGCATAACGTCGCAAGACCAAAGAGGGGGACCTCGGGCCTCTT
GCCATCGGATGTGCCAGATGGGATTAGCTAGTAGGTGGGTAACGGCTCACCTA
GGCGACGATCCCTAGCTGGTCTGAGAGGATGACCAGCCACACTGGAACGTGAGAC
ACGGTCCAGACTCCTACGGGAGGCAGCAGTGGGAATATTGCACAAATGGGCGCA
AGCCTGATGCAGCCATGCCCGTGTATGAAGAAGGCCTTCGGGTTGAAAGTACT
TTCAGCGGGGAGGAAGGGAGTAAAGTTAACCTTGCTCATTGACGTTACCCGC
AGAAGAACGACCCGGCTAACCTCGTGCAGCAGCCCGGTATACGGAGGGTGCA
AGCGTTAACGGAATTACTGGCGTAAAGCGCACGCAGGCGGTTGTTAAGTCAG
ATGTGAAATCCCCGGGCTAACCTGGGAACTGCATCTGATACTGGCAAGCTTGAG
TCTCGTAGAGGGGGTAGAATTCCAGGTAGCGGTGAAATGCGTAGAGATCTGG
AGGAATACCGGTGGCGAAGGCGGCCCCCTGGACGAAGACTGACGCTCAGGTGCG
AAAGCGTGGGGAGCAAACAGGATTAGATAACCTGGTAGTCCACGCCGTAACGAT
GTCGACTTGGAGGTTGTGCCCTTGAGGCGTGGCTTCCGGAGCTAACCGCTTAAGT
CGACCGCCTGGGAGTACGGCCGCAAGGTTAAACTCAAATGAATTGACGGGG
CCCGCACAAGCGCGGAGCATGTGATTAAATTGATGCAACCGAAGAACCTTAC
CTGGGTTGACATGCACAGGACGCGTCTAGAGATAAGCGTCCCTTGTGGCCTGT
GTGCAGGTGGTGCATGGCTGTCGTAGCTCGTGTGAGATGTTGGGTTAAGTC
CCGCAACGAGCGCAACCCCTGTCTCATGTTGCCAGCACGTAATGGTGGGACTCG
TGAGAGACTGCCGGGGTCAACTCGGAGGAAGGTGGGATGACGTCAAGTCATCA
TGCCCCTATGTCAGGGCTTACACATGCTACAATGGCCGGTACAAAGGGCTGC
GATGCCCGAGGTTAACGGAATCCTAAAAGCCGGTCTAGTTGGATCGGGTCA
TGCAACTCGACCCGTGAAGTCGGAGTCGCTAGTAATCGCAGATCAGCAACGCTG
CGGTGAATACGTTCCGGGCTTGTACACACCGCCCGTACGTCATGAAAGTCGG
TAACACCGAAGCCAGTGGCTAACCCCTCGGAGGGAGCTGTCGAAGGTGGGAT
CGGCATTGGGACGAAGTCGTAACAAGGTAACCGTAGGGGAACCTGCGGTTGGA
TCATGGGATTACCTAAAGAAGCGTACTTGTAGTGCTCACACAGATTGCTGATA
GAAAGTAAAAGCAAGGCCTTACGCGTTGGAGTGAGGCTGAAGAGAATAAGG
CCGTTCGCTTCTATTAAATGAAAGCTCACCCCTACACGAAAATATCACGCAACCGT
GATAAGCAATTTCGTGTCCTCGTCTAGACGTAGCGCCGATGGTAGTGTGGG
GTCTCCCCATGCGAGAGTAGGGAACTGCCAGGCATCAAATAACGAAAGGCTCA
GTCGAAAGACTGGGCTTTCGTTTATCTGTTGTTGCGGTGAACGCTCTCCTGA
GTAGGACAAATCCGCCGGAGCGGATTGAAACGTTGCGTCACTGAAAGTGGG
GGTGGCGGGCAGGACGCCGCTAAACTGCGAGGCATCAAATTAGCAGAAGG
CCATCCTGACGGATGGCCTTTGCGTTCTACAAACTCTCCTGCGTCACTGCA
GGCATGCAAGCTGGCGTAATCATGGTCTAGCTGTTCTGTGAAATTGTTAT
CCGCTCACAAATTCCACACACATACGAGCCGAAGCATAAAGTGTAAAGCCTGG
GTGCCTAATGAGTGAGCTAACTCACATTAAATTGCGTTGCGCTACTGCCGCTTC
CAGTCGGAAACCTGTCGTGCCAGCTGCTTAATGAATGCCAACGCGCGGG
AGAGGCGGTTGCGTATTGGCGCTTCCGCTTCGCTACTGACTCGCTGC
GCTCGGTGCTTGGCTGCCGAGCGGTATCAGCTCACTCAAAGGCGGTAAATAC
GGTTATCCACAGAAATCAGGGATAACGCAAGGAAAGAACATGTGAGCAAAAGGCCA
GCAAAAGGCCAGGAACCGTAAAAGGCCGTTGCTGGCGTTTCCATAGGCTC
CGCCCCCTGACGAGCATCACAAAATGACGCTCAAGTCAGAGGTGGCGAAACC

FIGURE 26

CGACAGGACTATAAAGATAACCAGGCCTTCCCCCTGGAAAGCTCCCTCGTGCCTC
TCCTGTTCCGACCCCTGCCGCTTACCGATAACCTGTCGCCCTTCTCCCTCGGGA
AGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTCGGTAGGTGCG
TTCGCTCCAAGCTGGGCTGTGACGAACCCCCCGTTAGCCCCGACCGCTGCG
CCTTATCCGGTAACATCGCTTGAGTCCAACCCGGTAAGACACGACTTATGCCA
CTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCCTGCT
ACAGAGTTCTGAAGTGGTGGCTAACTACGGCTACACTAGAAGGACAGTATTG
GTATCTGCGCTCTGCTGAAGCCAGTTACCTCGGAAAAAGAGTTGGTAGCTCTGA
TCCGGCAACAAACCAACCGCTGGTAGCGGTGGTTTTGTTGCAAGCAGCAGA
TTACGCGCAGAAAAAAAGGATCTAAGAAGATCCTTGATCTTCTACGGGTCT
GACGCTCAGTGGAACGAAAACTCACGTTAAGGGATTGGTCATGAGATTATCAA
AAGGATCTCACCTAGATCCTTAAATTAAAAATGAAGTTAAATCAATCTAAAGT
ATATATGAGTAAACTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGCACCTAT
CTCAGCGATCTGCTATTGTTCATCCATAGTTGCTGACTCCCCGTGCTGAGA
TAACCTACGATACTGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATACCGCG
AGACCCACGCTCACCGGCTCCAGATTATCAGCAATAAACCAAGCCAGCCGGAAAGG
GCCGAGCGCAGAAGTGGCCTGCAACTTATCCGCTCCATCCAGTCTATTAAATTG
TTGCCGGGAAGCTAGAGTAAGTAGTTGCGCAGTTAATAGTTGCGAACGTTGTTG
CCATTGCTACAGGCATCGTGGTGTACGCTCGTCTGGTATGGCTTCATTAG
CTCCGGTTCCCAACGATCAAGCGAGTTACATGATCCCCATGGTGTGCAAAAAAA
GCGGTTAGCTCCTCGGTCTCCGATCGTGTAGAAGTAAGTTGGCCGAGTGT
TATCACTCATGGTTATGGCAGCACTGCATAATTCTCTTACTGTCATGCCATCCGTA
GATGCTTTCTGTGACTGGTAGTACTCAACCAAGTCATTCTGAGAATAGTGTATG
CGGCGACCAGGTTGCTCTGGCCGGTCAATACGGATAATACCGGCCACATA
GCAGAACTTAAAGTGCATCATTGGAAAAGCTTCTCGGGCGAAAACCTCTCA
AGGATCTTACCGCTGTTGAGATCCAGTTGATGTAACCCACTCGTGACCCAACTG
ATCTTCAGCATCTTACTTTACCAAGCGTTCTGGGTAGCAGGAAATGTTGAATACTCAT
TTCCCTTTCAATATTATTGAAGCATTATCAGGGTTATTGTCATGAGCGGATAC
ATATTGAATGTATTTAGAAAAATAACAAATAGGGGTTCCGCGCACATTCCCCGA
AAAGTGCCACCTGACGTCTAAGAAACCATTATTATCATGACATTAACCTATAAAAT
AGCGTATCACGAGGCCCTTCGTCGCGCTTCGGTATGACGGTGAAAACC
TCTGACACATGCAGCTCCCGAGACGGTCACAGCTTGTCTGTAAGCGGATGCCGG
GAGCAGACAAGCCGTCAGGGCGGTCAAGCGGGTGTGGCGGGTGTGGGGCT
GGCTTAACATGCGGCATCAGAGCAGATTGACTGAGAGTGCACCATATGCGGTG
TGAAATACCGCACAGATGCGTAAGGAGAAAATACCGCATCAGCGCCATTGCCA
TTCAGGCTGCGCAACTGTTGGAAAGGGCGATCGGTGCGGGCTCTCGCTATTAC
GCCAGCTGGGAAAGGGGATGTGCTGCAAGGCAGTTAAGTTGGTAACGCCAG
GGTTTCCCAGTCAGCACGTTGAAACGACGCCAGTGAATTGAGCTCGGTAC
CTGCAGTGACGACAGGAAGAGTTGAGAAACGCAAAAGGCCATCCGTCAGGAT
GGCCTTCTGCTTAATTGATGCGCTGGCAGTTATGGCGGGCTCTGCCGCCAC
CCTCCGGGCCGTGCTCGCAACGTTCAATCCGCTCCGGGAGTTGCTCTAC
TCAGGAGAGCGTTACCGACAAACACAGATAAAACGAAAGGCCAGTCTTCGA
CTGAGCCTTCGTTTATTGATGCGCTGGCAGTTCCCTACTCTCGCATGGGAGAC
CCCACACTACCATCGCGCTACGCTAGATTATTGAGAGCTCATCCATGCCATG
TGTAAATCCCAGCAGCAGTTACAAACTCAAGAAGGACCATGTTGACCGCTTCG

FIGURE 26 Cont.

TGGGATCTTCGAAAGGGCAGATTGTGTCGACAGGTAATGGTTGTCGGTAAAAG
GACAGGGCCATGCCAATTGGAGTATTTGTTGATAATGGCTGCTAGTTGAACGG
ATCCATCTTCAATGTTGCGAATTGAAAGTTAGCTTGTGATTCCATTCTTGTGTT
TGTCTGCCGTGATGTATACATTGTGAGTTAGTTGACTCGAGTTGTGTCGG
AGAATGTTCCATCTTAAATCAATACCTTAACTCGATACGATTAACAAGG
GTATCACCTTCAAACCTGACTTCAGCACGCGTCTTGTAGTCCCCTGATCTTGA
AGATATAGTGCCTGTCATACATAACCTTGGGATGGCACTCTGAAAAAGTCAT
GCCGTTCATATGATCCGGATAACGGAAAAGCATTGAACACCCATAAGAGAAAAGTA
GTGACAAGTGTGGCCATGGAACAGGTAGTTCCAGTAGTGCAAATAAATTAAAG
GTAAGCTTCCGTATGTAGCATCACCTCACCCCTCCACTGACAGAAAATTGT
GCCCATTAACATCACCCTAATTCAACAAGAATTGGGACAACCTCAGTGAAAAGT
TCTTCTCCTTGCTAGCAGTGATTTTCTCCATTGCGGAGGGATATGAAAGCG
GCCGCTTCCACACATTAAACTAGTTCGATGATTAATTGTCACAGCTGCCGG
CACCTCGCTAACGGATTCAACCCTCAAGAATTGGAGCCAATCGATTCTGCGGA
GAACGTGAATGCCGGTACCCAGATCCGGAACATAATGGTGCAGGGCGCTGACTT
CCGCGTTCCAGACTTACGAAACACGGAAACCGAAGACCATTGTTGTC
AGGTCGAGACGTTGCAAGCAGTCGCTCACGTTGCGCTCGGTATCGGTGA
TTCATTCTGCTAACCACTGAAAGCAACCCGCCAGCCTAGCCGGTCTAACGAC
AGGAGCACGATCATGCGACCCGTGGCCAGGACCCACGCTGCCGAGATGCGC
CCGCGTGCCTGCTGGAGATGGCGACGCGATGGATATGTTCTGCCAAGGGTTG
GTTTGCCTACAGTTCCGCAAGAATCGATTGGCTCCAATTCTGGAGTGGT
GAATCCGTTAGCGAGGTGCCGCCGGCGAGCTGTTGACAATTATCGAACTAG
TTAATGTGTGAAAGCGCCGCTTCATATCCCTCCGCAAATGGAGAAAAAAATCA
CTGGATATACCACCGTTGATATATCCAATGGCATCGTAAAGAACATTGAGGCA
TTTCAGTCAGTTGCTCAATGTACCTATAACCAAGACCGTTGACTGGATATTACGGC
CTTTAAAGACCGTAAAGAAAAATAAGCACAAGTTTATCCGGCTTATTACCAT
TCTTGCCTGCTGATGAATGCTCATCCGGAATTCCGTATGGCAATGAAAGACGGT
GAGCTGGTGTATGGGATAGTGTACCTGACCGTTGACTGGATATTACGGC
TGAAACGTTTATCGCTGGAGTGAATACACGACGATTCCGGCAGTTCTAC
ACATATATCGCAAGATGTGGCGTGTACGGTAAAACCTGGCTATTCCCTAAA
GGGTTTATTGAGAATATGTTTCTGCTCAGCCAATCCCTGGGTGAGTTTACCCAG
TTTGATTAAACGTGGCCAATATGGACAACCTTCTGCCCGTTTACCATGG
GCAAATATTATACGCAAGGCACAAGGTGCTGATGCCGCTGGCGATTAGGTCA
TCATGCCGCTGTGATGGCTTCCATGTCGGCAGAATGCTTAATGAATTACAACAGT
ACTGCGATGAGTGGCAGGGGGGGCGTAATTAAAGGCAAGTTGACTGGGCC
TTAACGCCCTGGTGCTACGCCCTGAAATAAGTGATAATAAGCGGATGAATGGCAGAA
ATTGAAAGCAAATTGACCCGGTCGTCGTTCAAGGGCAGGGTCGTTAAATAGCC
GCTTATGCTATTGCTGGTTACGGTTATTGACTACCCGAAGCAGTGTGACCCCTG
TGCTTCTCAAATGCCGTAGGGCAGTTGCTCAGGTCTCCGTGGGGGGAAATAAT
TAACGGTATGAGCCTTACGGCGGACGGATCGTGGCGCAAGTGGTCCGGCTAG
AGGATCCGACACCATCGAATGGTCAAAACCTTCCGCGTATGGCATGATAGCGC
CCGGAAAGAGAGTCATTAGGGGGTGAATGTGAAACCACTAACGTTATACGATG
TCGCAGAGTATGCCGGTGTCTTATCAGACCGTTCCCGCGTGGTGAACCAAGGC
CAGCCACGTTCTGCAAAACGGGGAAAAGTGGAGCAGCGCAGTGGGGAGCT
GAATTACATTCCCAACCGCGTGGCACAACAACGGGGCAAACAGTCGTTGCTG
ATTGGCGTTGCCACCTCAGTCTGGCCCTGCACGCGCCGTCGCAAATTGTCGCG

FIGURE 26 Cont.

GCGATTAAATCTCGCGCCGATCAACTGGGTGCCAGCGTGGTGTGATGGTAG
AACGAAGCGCGCTCGAACCTGTAAGCGGCGGTGCAACATCTTCGCGCAAC
GGGTCACTGGGCTGATTAACTATCCGCTGGATGACCAGGATGCCATTGCTGT
GGAAGCTGCCTGCACTAACATGTTCCGGCTTATTCTTGTATGCTCTGACCAGACAC
CCATCAACAGTATTATTTCTCCCCTGAAGACGGTACCGCACTGGCGTGGAGCA
TCTGGTCGCACTGGGcCACCAAGCAAATCGCGCTGTTAGCGGGCCATTAAAGTTCT
GTCTCGGCGCTCTCGCTGGCTGGCATAAAATATCTCACTCGCAATCAA
TTCAGCCGATAGCGGAACGGGAAGGCAGTGGAGTGCCATGTCCGGTTTCAACA
AACCATGCAAATGCTGAATGAGGGCATCGTCCACTGCGATGCTGGTTGCCAAC
GATCAGATGGCGCTGGCGCAATCGCGCCATTACCGAGTCCGGCTGCGCGT
GGTGCAGATCTCGGTAGTGGGATACGACGATAACGAAGACAGCTCATGTTATA
TCCCAGCGCTCAACCACCATCAAACAGGATTTCGCTGCTGGGCAAACCGAGCGT
GGACCGCTTGCTGCAACTCTCAGGGCCAGGCAGTGAAGGGCAATCAGCTGTT
GCCCGTCTCACTGGTAAAAAGAAAAACCCCTGGCGCCAATACGCAAACCGCC
TCTCCCCCGCGCTGGCCGATTCAATGCACTGGCACGACAGGTTCCCGAC
TGGAAAGCGGGCAGTGAGCGCAACGCAATTAAATGTGAGTTAGCTCACTCATTAGG
CACCCCCAGGCTTACACTTATGCTTCCGGCTGTATAATGTGTGGAATTGTGAGC
GGATAACAATTTCACACAGCGGCCGCTGAGAAAAAGCGAAGCGGCACTGCTTT
AACAAATTATCAGACAATCTGTGTGGGCACTCGAAGATAACGGATTCTAACGTCGC
AAGACGAAAAATGAATACCAAGTCTCAAGAGTGAAACACGTAATTACCGAAGTT
TAATTCTTGAGCGTCAAACCTTT

FIGURE 26 Cont.

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Inventor: Phillip R. Cunningham

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